HEALTH SCIENCE

Program of Studies
2014-2015

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Office of Career and Technical Education
Kentucky Department of Education

HEALTH SCIENCE EDUCATION: 2014-2015

Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Advanced Allied Health		170521				X	1-2
Advanced Nursing Assistant	NAA 125	170620				X	1-3
Advanced Pre-Nursing	NAA115	170621				X	1
*Biomedical Innovations	PLTW	170704			X	X	1
Cooperative Learning I (Nursing)		170601			X	X	1
Cooperative Learning II (Nursing)		170602			X	X	2
CPR for Healthcare Professionals		170140	X	X	X	X	0.5
Development of the Care Giver Role	NPN 105	170611		X	X	X	2
Emergency Procedures		170141	X	X	X	X	0.5-1.0
Health and Wellness for CTE Credit		170172		X	X	X	0.5-1.0
**Health and Wellness for the Health Component within the Health Requirement		170171		X	X	X	0.5-1.0
Health and Wellness/Human Growth & Develop.		170168		X	X	X	0.5
Health Science Anatomy and Physiology		170167		X	X	X	1.0
Health Science Microbiology/Infection Control	AHS 130	170640		X	X	X	0.5
Healthcare Core Skills/Fundamentals		170501			X	X	1-2
*Human Body Systems	PLTW	170702		X	X		1
Introducing to Nursing and Healthcare System	NPN 100	170610		X	X	X	0.5
Kentucky Medication Aide (will delete 2014)		170612		X	X	X	1
Leadership Dynamics – Health Science		170199	X	X	X	X	0.5-1.0
Medicaid Nurse Aide	MNA 100	170631			X	X	1-2
*Medical Interventions	PLTW	170703			X	X	1
Medical Math		170181		X	X	X	0.5-1.0
Medical Math I		170169	X	X	X	X	0.5
Medical Math II		170170		X	X	X	1
Medical Science for CTE Credit	AHS 109	170162		X	X	X	1
**Medical Science for the Life Component within the Science Requirement		170161		X	X	X	2
Medical Terminology I	AHS 120	170131		X	X		0.5
Medical Terminology II	AHS 115	170132			X	X	0.5
Nursing Assistant Skills II		170613		X	X	X	1
Pharmacological and Other Therapeutic Modalities	NPN 110	170614		X	X	X	0.5
Internship		170550			X	X	0.5-1.0
Internship: Dental Assistant		170552			X	X	1-2
Internship: Dietetic Technician		170553			X	X	1-2
Internship: Dispensing Optician		170554			X	X	1-2
Internship: EKG Technician		170555			X	X	1-2

Course Title	Post-Secondary Connection	Course Code	Recommended Grade Level				Recommended Credit
			9	10	11	12	
Internship: Funeral Attendant		170568			X	X	1-2
Internship: Health Science		170566			X	X	1-2
Internship: Medical Assistant		170556			X	X	1-2
Internship: Medical Laboratory Aid (Phlebotomist)		170567			X	X	1-2
Internship: Occupational Therapy Aide		170569			X	X	1-2
Internship: Personal & Home Care Aide		170557			X	X	1-2
Internship: Pharmacy Technician		170558			X	X	1-2
Internship: Physical Therapy Aide		170559			X	X	1-2
Internship: Psychiatric Aide		170560			X	X	1-2
Internship: Radiographic Aide		170564			X	X	1-2
Internship: Speech Therapy Aide		170565			X	X	1-2
Internship: Veterinary Assistant & Laboratory Animal Caretaker							
*Principles of Biomedical Science	PLTW	170701	X	X	X		1-2
Principles of Health Science	AHS 105	170111	X	X	X		1-2
Safety and First Aid		170142	X	X	X	X	0.5
Special Topics in Allied Health		170591			X	X	1-2
Special Topics in Health Science/Pre-Nursing Major		170691			X	X	1-2
Sports Medicine 1: Essentials of Sports Medicine		170301		X	X		1
Sports Medicine 2: Applied Sports Medicine		170302			X	X	1
Sports Medicine: Practicum						X	1
Principles of Veterinary Assisting		170801		X			1
Veterinary Assisting Skills		170802			X		1
Advanced Veterinary Assisting Skills		170803				X	1

**District and School must have a valid and current STEM agreement signed with PLTW and the teacher must complete Core Training to offer this Career Pathway and/or any of these courses.*

***Interdisciplinary Courses. May be taught for required graduation requirement in a Core Content area. These courses include correlations to the Program of Studies, guiding questions, sample activities and extensions for diverse learners. CTE teachers must meet NCLB criteria for granting academic credit. Bolded courses are under development. Content is not included.*

Overview of Health Science Cluster
The Health Science Program provides the secondary student with orientation, exploration, and preparation into the health care industry. Courses are sequenced to provide continuous student progress toward achievement of a career goal in any of the Health Science Cluster Career pathways. The integration of literacy, numeracy, science, employability, 21st Century and technical skills is a vital component of each course offering.

This Cluster assists the student in developing essential cognitive, affective, and psychomotor skills and the flexibility to design an individual course of study focused on specific learning goals. The program is designed for students who desire entry-level certification and/or plan to enroll in a post secondary program in one of many occupational areas in the health field. After obtaining a satisfactory performance level in the health care core competencies, the student may obtain work experience in a health-related facility.

Why a Health Science Cluster?
Career Technical program offerings should be based on the needs of the community and state—the one occupation needed in all communities across the Commonwealth is healthcare. Students should have the opportunity to obtain preparation in fields of study that offer the probability of employment once that pathway of courses is completed. Currently, Kentucky joins a nationwide shortage of healthcare workers. At a time when many industries are downsizing, the healthcare industry is one of the largest industries in the country, with more than 14 million jobs. According to *the U.S. Health Workforce Chartbook*, these individuals represent approximately 10 percent of the nation's workforce. Of the top 20 professions projected as "fastest growing occupations" by the Occupational Outlook Handbook: U.S. Bureau of Labor Statistics, 11 are health science career cluster occupations. From personal care aides (70%) to Physical Therapists (39%), health occupations make up over 50% of the projected workforce growth.

Health care professionals work in a variety of settings such as clinics, laboratories, hospitals, and schools, to name several. Whether the student wants to be a biomedical engineer, forensic pathologist, a nurse, a cardiovascular technician, medical secretary or physical therapist, there are lots of challenging careers in health care that provide a living wage. Combining medical technology and the human touch, the healthcare industry administers care around the clock, responding to the needs of millions of people across the lifespan. More than 460,000 establishments make up the healthcare industry. Two-thirds of all private health service establishments are offices of physicians or dentists. Although hospitals comprise less than 2 percent of all private health service establishments, they employ nearly 40 percent of all workers.

The number of health care specializations are fueling the overall growth of the industry because of: the Affordable Care Act; an aging population; new forms of information technology; the need for multi-skilled workers; the move toward preventative and primary care; the increase in outpatient surgery; more preventative care in the workplace; a decrease in the number of health care workers in rural and inner city areas; and the exodus of many "mature" workers into other professions or retirement.

Program Requirements
The program shall meet the criteria established by state and national approval/accrediting agencies that certify and/or register the graduates of the program. In a Health Science program, the teacher on record shall be a licensed (active) health care professional in the Commonwealth of Kentucky and meet requirements for teaching in a Career Technical Program area. A teacher of the Medicaid Nurse Aide course must be a Registered Nurse and meet the guidelines as established by the Kentucky Medicaid Program, adhere to a 15:1 student to teacher ratio, and meet the requirements for teaching a Career Technical program area. A recommended list of equipment and supplies and facility guidelines for the program is available.

Professional and Student Organization
The HOSA-future health professionals organization is an integral part of the Health Science program. Students who are enrolled in or who have completed a course from the Health Science curriculum are eligible to become members. Leadership training, community service and the opportunity to apply technical and academic competencies are available to all members. Local chapters affiliate with the state and national organization and students may be eligible to attend state and/or national leadership conferences. More information about HOSA-future health professionals and its' resources is available at www.hosa.org

Teachers in the Health Science Education program are expected to participate in the appropriate professional organization to keep licensure, skills and knowledge current. Membership in the Kentucky Association of Career and Technical Education (KACTE) organization provides many benefits and a link to other professional educators in CTE. Membership and benefit information can be found at www.kacteonline.org

Work-Based Learning
Work-based learning within the Health Science program may include shadowing, clinical experience, career pathway internship, and/or cooperative education. These experiences should be connected to the student's career pathway. Cooperative Education consists of in-school instruction combined with on-the-job work experience. Specific guidelines are outlined in 705 KAR 4:041. Information on other types of work-based learning is described in detail in the document Work-Based Learning Guide, which is available on the KDE web page at :
http://education.ky.gov/CTE/cter/Pages/WBL.aspx

Specific guidelines for work-based learning relating to the Health Science program include:

- A health science teacher who is licensed in Kentucky as a Registered Nurse must provide clinical supervision for Medicaid Nurse Aide training.
- All Health Science students must be covered by a professional liability insurance plan as required by the affiliating agency;
- All Health Science students must have completed the Health Science core prior to a work-based experience;
- The school shall use the approved standard agreement with each cooperating agency specifying responsibilities and authority of each party to the agreement;
- A "Statement of Understanding" defining student responsibility shall be signed by student and parent or guardian prior to assignment in a clinical area, practicum, or cooperative experience.

Program Review/Use of Data

All secondary Health Science programs located within the high school or career technical center operated by the local board of education shall be under the auspices of the Kentucky Department of Education, Division of Career and Technical Education. The classroom teacher should maintain documentation of progress toward meeting standards in Career Technical Education. Periodic technical assistance visits, e-mail distribution of information and bi-annual updates shall be provided by the state consultant. Teachers of the program are expected to participate in the summer Career Technical Conference and attend update sessions relating to the program area.

Program improvements and changes should be based on the analysis of assessment data. Health Science teachers should analyze the results of end or course and pathway assessments to identify "gaps" in instruction.

Secondary Health Science programs must annually report student data to the state office. Initial student data is collected by the Technical Education Data System (TEDS) each year. Students are listed according to a career cluster then by career major.

Career Majors/National Skill Standards

The National Health Care Skills Standards Project has identified standards for a core set of skills that serve as a foundation for occupations and functions across health science. This broad approach avoids duplication of efforts and makes a unique and vital contribution to the initial preparation of health care workers.

National Health Care Core Skill Standards specify the core knowledge and skills needed by health care workers and include the following areas: Academic Foundation, Communication, Systems, Employability Skills, Legal Responsibilities, Ethics, Safety Procedures, Teamwork, Health Maintenance Practices, Technical Skills and Information Technology Applications.

Thanks to the Health Science Career Cluster Curriculum Team who made this document a reality.

Teacher	School
Julye Adams	Elkhorn Crossing School
Sherry Allen	Shelby County ATC
Tim Amshoff	Moore High School – JCPS
Tonya Burns	Shelby County High School
Michael Campbell	Valley High School – JCPS
Rhonda Childress	Rockcastle County ATC
Cassidy Davis	Montgomery County ATC
Tammy Geary	Arvin Educational Center
Amy Legate	Henderson County High School
Angie Lewis	Grant County CTC
Kathleen Magsam	Locust Trace Agriscience School
Lisa Mischel	Magoffin County CTC
Scott Rouse	Central Hardin High School
Melissa Smith	Metcalfe County High School
Rhonda Whitson	Fleming County High School
Laura Williams	Boone County ATC
Peggy Williford	Jefferson County Public Schools

HEALTH SCIENCE CLUSTER CAREER PATHWAYS

2014-2015		
Career Pathway	Core Courses	Elective Courses
Allied Health **CIP: [51.0000.01]** **Allied Health – NAF** **CIP: [51.0000.88]** <u>*Tests for Certification*</u> • KOSSA – Allied Health	Emergency Procedures for Healthcare Professionals Medical Terminology I Principles of Health Science Allied Health Core Skills Internship: Allied Health (pg. 2)	Anatomy/Physiology Medical Math Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant
Biomedical Sciences - *Project Lead the Way **CIP: [26.0102.00]** <u>*Tests for Certification*</u> • EKG Technician • KOSSA – Allied Health • Pharmacy Technician	Principles of Biomedical Sciences Human Body Systems Medical Interventions Biomedical Innovations BMS Internship: General, or BMS Internship: EKG, or BMS Internship: Pharmacy	Anatomy/Physiology Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant

Dental Assisting
CIP: [51.0601.01]
 	
Dental Assisting – NAF
CIP: [51.0601.88]
 	
<u>*Tests for Certification*</u>
• Dental Assisting certification (3 certifications)
  ○ CPR/First Aide
  ○ OSHA
  ○ Dental Radiation Certificate
• KOSSA – Allied Health
	Emergency Procedures for Healthcare Professionals
	Medical Terminology II
	Principles of Health Science
	Internship: Dental Assisting
		Anatomy/Physiology
		Computer and Tech Applications
		Leadership Dynamics
		Psychology
		Child/Human Development
		Other courses approved by Program Area Consultant

Electrocardiograph Technician (EKG Technician) **CIP: [51.0902.01]** **Electrocardiograph Technician (EKG Technician) - NAF** **CIP: [51.0902.88]** <u>*Tests for Certification*</u> • Certified EKG Technician • KOSSA – Allied Health	Emergency Procedures for Healthcare Professionals Medical Terminology I Principles of Health Science EKG Internship/Allied Health Internship	Anatomy/Physiology Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant

Emergency Medical Technician **CIP: [51.0902.01]** **Emergency Medical Technician - NAF** **CIP: [51.0902.88]** <u>*Tests for Certification*</u> • EMT – Basic National Certification • KOSSA – Allied Health	Emergency Procedures for Healthcare Professionals Medical Terminology I Principles of Health Science Emergency Medical service – First Responder Emergency Medical Technician - Basic	Anatomy/Physiology Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant
Medical Administrative Assisting **CIP: [51.0710.00]** <u>*Tests for Certification*</u> • NHA Certified Medical Administrative Assistant (pilot) • KOSSA – Allied Health	Emergency Procedures Medical Terminology Principles of Health Science Medical Office Procedures Internship: Medical Office	Anatomy/Physiology Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant
Phlebotomy Technician **CIP: [51.1009.01]** **Phlebotomy Technician - NAF** **CIP: [51.1009.88]** <u>*Tests for Certification*</u> • Certified Phlebotomy Technician • KOSSA – Allied Health	Emergency Procedures for Healthcare Professionals Medical Terminology I Principles of Health Science Internship: Medical Laboratory Aide (Phlebotomist)	Anatomy/Physiology Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant Internship: Medical Assistant
Pharmacy Technician **CIP: [51.0805.01]** **Pharmacy Technician - NAF** **CIP: [51.0805.88]** <u>*Tests for Certification*</u> • Certified Pharmacy Technician • KOSSA – Allied Health	Emergency Procedures for Healthcare Professionals Medical Terminology I Principles of Health Science Pharmacology/Pharmacy Tech Internship	Anatomy/Physiology Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant
Pre-Nursing **CIP: [51.2699.01]** **Pre-Nursing - NAF** **CIP: [51.2699.88]**	Emergency Procedures for Healthcare Professionals Medical Terminology I Principles of Health Science Medicaid Nurse Aid Internship: Advanced Healthcare Skills/PreNursing	Anatomy/Physiology Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant

Tests for Certification • KOSSA – Allied Health • Medicaid Nurse Aide		
Sports Medicine **CIP: [51:0913.00]** *Tests for Certification* • KOSSA – Allied Health	Emergency Procedures for Healthcare Professionals Medical Terminology I Principles of Health Science Essentials of Sports Medicine Applied Sports Medicine Internship: Sports Medicine	Anatomy/Physiology Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant
Veterinarian Assistant **CIP: [51.0808.00]** *Tests for Certification* • KOSSA – Allied Health	Principles of Veterinary Assisting Veterinary Assisting Skills Advanced Veterinary Skills Internship: Veterinary Assisting	Anatomy/Physiology Computer and Tech Applications Leadership Dynamics Psychology Child/Human Development Other courses approved by Program Area Consultant

***Schools must have a valid and current STEM agreement with PLTW to offer this pathway.**

Advanced Allied Health Core Skills
Valid Course Code:
170521

Course Description: Advanced Allied Health Core Skills is an expanded practical application of health care skills integrated and enriched for the refinement of academic skills. Following successful completion of the Allied Health Core Skills or Medicaid Nurse Aide course, the student will choose a work-based learning environment in a concentrated area of study and skill development. The course includes a culminating project based on the selected area of study. A work-based internship is designed to complement the classroom instruction. Students will be required to follow agency requirements for attendance and health screenings. (These may include but are not limited to: drug screens, TB skin test, and immunization certificates). Prerequisite courses are Principles of Health Science (1 credit), Medical Terminology I or II (0.5 credits each), and Emergency Procedures (0.5 credit).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the designated area of study prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the designated career.
14. Demonstrate knowledge of first aid, safety and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the designated career area.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and universal precautions.
22. Recognize and provide environmental, personal, and client safety.
23. Complete a training plan in conjunction with internship employer.
24. Develop a financial plan to allocate funds for personal, education and/or professional expenses.
25. Investigate employment opportunities and responsibilities of health care workers.
26. Develop work habits necessary for individual maturity and job competence.
27. Interact successfully with co-workers, supervisors and classmates.
28. Create a plan for productive time management.
29. Interpret instructional manuals.
30. Discuss articles from professional journals.
31. Create an acceptable work-related report.
32. Formulate a plan for post-secondary education.
33. Prepare a written and oral culminating report based on experiences in health science program.
34. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.

35. Use information technology applications as appropriate to health care specialties.
36. Integrate literacy and numeracy concepts and processes across all curricular units.
37. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Advanced Nursing Assistant
Valid Course Code:
170620

Course Description: Provides knowledge and skills for nurse aides to assume the role and responsibility required in a long term care setting. Focuses on communication, infection control, safety, resident/patient rights, and basic nursing skills. Prepares the student to perform basic nursing skills at an advanced level.

Content/Process

Students will:

1. Explain the role of the nursing assistant in a variety of settings.
2. Identify work ethics and personal habits as they apply to the healthcare facility.
3. Demonstrate good personal habits.
4. Explain the nurse aide's role in organizational structure of the nursing facility.
5. Identify responsibilities of the nurse aide to the resident and health care team.
6. Describe basic skills and techniques in the performance of uncomplicated nursing procedures according to the program standards.
7. Use basic skills and techniques in performing uncomplicated nursing procedures according to the program standards.
8. Explain the role of the nurse aide in the processes and procedures associated with the nursing care of residents based on a plan of care and direction from charge personnel.
9. Organize and administer nursing care to residents based on a plan of care and direction from charge personnel.
10. Describe resident's rights in the performance of activities of daily living.
11. Demonstrate knowledge of resident's right in assisting residents with their activities of daily living.
12. Recognize how to assist residents in attaining and maintaining functional independence to the extent possible.
13. Demonstrate ability to assist residents in attaining and maintaining functional independence to the extent possible.
14. Explain the proper care for and use of equipment and supplies necessary for patient care.
15. Demonstrate proper care for and use of equipment and supplies necessary for patient care.
16. Recognize the resident's physical, emotional, social and mental health needs.
17. Demonstrate sensitivity to the resident's physical, emotional, social and mental health needs through skillful, directed interactions.
18. Actively participate in the maintenance of a non-threatening, independence-conducive environment for the nursing facility resident.
19. Demonstrate all identified basic nursing skills with safety and efficiency.
20. Use effective communication techniques with clients, families and other members of the healthcare team.
21. Identify and support situations that may impact the client/families' rights or well-being.
22. Report client knowledge deficits, support needs, and provide basic instruction as directed.
23. Recognize situations beyond one's knowledge and experience and reports appropriately.

Connections

- Kentucky Occupational Skill Standard/National Health Care Skill Standards
- HOSA-future health professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Advanced Pre-Nursing
Valid Course Code:
170621

Course Description: Provides knowledge and skills for nurse aides to assume the role and responsibility required in a variety of health care settings. Builds upon MNA 100/NAA 100 and prepares the student to perform advanced nursing assistant skills.

Content/Process

Students will:

1. Demonstrate an understanding of the role of the advanced nursing assistant in a variety of settings.
2. Demonstrate all identified nursing assistant II skills with safety and efficiency.
3. Organize and perform care for assigned patients in a responsible manner and reports observations.
4. Communicates effectively with patients, families and other members of the healthcare team.
5. Identify and report situations that may impact the patient families rights or well-being
6. Recognize situations beyond ones knowledge and experience and reports appropriately.

Connections

- Kentucky Allied Health Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Cooperative Learning I (Nursing)
Valid Course Code:
170601

Course Description: Cooperative Education provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Cooperative Education program receive compensation for their work.

Content/Process

Students will:

1. Gain career awareness and the opportunity to test career choice(s)
2. Receive work experience related to career interests prior to graduation
3. Integrate classroom studies with work experience
4. Receive exposure to facilities and equipment unavailable in a classroom setting
5. Increase employability potential after graduation
6. Earn funds to help finance education expenses

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Cooperative Learning II (Nursing)
Valid Course Code:
170602

Course Description: Cooperative Education provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Cooperative Education program receive compensation for their work.

Content/Process

Students will:

1. Gain career awareness and the opportunity to test career choice(s)
2. Receive work experience related to career interests prior to graduation
3. Integrate classroom studies with work experience
4. Receive exposure to facilities and equipment unavailable in a classroom setting
5. Increase employability potential after graduation
6. Earn funds to help finance education expenses

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

CPR for Healthcare Professionals
Valid Course Code:
170140

Course Description: Emergency Procedures is designed to teach cardiopulmonary resuscitation (Adult/Infant/Child) using current emergency techniques relative to cardiac and/or respiratory arrest, as put forth by the American Heart Association, National Safety Council or American Red Cross. The American Heart Association, National Safety Council or American Red Cross standardized course qualifies a student for certification of cardiopulmonary resuscitation and safety and first aid.

Content/Process

Students will:

1. Demonstrate use of standard precautions.
2. Review fire safety.
3. Investigate legal and ethical issues related to emergency procedures.
4. Demonstrate employability and social skills relevant to careers.
5. Apply mathematics, science and communication skills within the emergency procedure course/health care setting.
6. Use technology to collect, organize and communicate information and ideas.
7. Evaluate services and resources available in the community.
8. Research and debate issues related to organ donations.
9. Compare and contrast emergency procedures used in the media to reality.
10. Utilize activities of the HOSA-Future Health Professionals as an integral component of course content and leadership development (suggestion: have students participate in CPR/First Aid and Public Health Emergency Preparedness competitive events).
11. Participate in a medical disaster dramatization (optional).
12. Incorporate HOSA guidelines for CERT competitive events if time permits (optional).
13. Demonstrate tasks as required by the CPR for Health Care Professionals standardized course (American Heart Association or American Red Cross).
14. Demonstrate first aid techniques for certification including tasks required by the standardized course of the American Heart, National Safety Council or American Red Cross.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Development for the Care Giver Role
Valid Course Code:
170611

Course Description: Introduction to nursing and the nursing process as related to client activities of daily living across the life span; opportunity to develop and practice psychomotor skills related to health assessment, promotion, maintenance, and illness prevention.

Prerequisites: Current CPR card for Health Care Provider and successful completion of a Medicaid Nurse Aide

Content/Process

Students will:

1. Use basic health care measures that maintain, promote, and restore optimal health and wellness.
2. Use the nursing process as the method of problem solving in response to client needs.
3. Demonstrate basic physical assessment techniques.
4. Respond to assistive needs of individuals with functional alterations throughout the life span.
5. Exhibit safe and caring behaviors when providing nursing care.
6. Identify situations where client advocacy is indicated.
7. Develop a beginning awareness of self as a care provider.
8. Effectively use selected technological devices that impact client care in the health care setting.
9. Identify situations beyond one's knowledge and experience and seek appropriate assistance.
10. Give a brief history of persons involved with the early development of microbiology.
11. Describe the infectious process and the etiologic agents.
12. Explain the various body defenses against infection including immune response.
13. Define and list the differences between normal flora and pathogenic organisms affecting the body.
14. Explain the control of microbe growth and standard precautions (OSHA requirements) necessary for a safe work environment for the health care provider.
15. (LAB) Interview an individual recognizing subjective and objective data.
16. (LAB) Identify a nursing diagnosis on a care plan.
17. (LAB) Write goals using proper format.
18. (LAB) Identify nursing actions on a care plan.
19. (LAB) In small groups, discuss principles of documentation.
20. (LAB) Present a sample of documentation of nursing care.
21. (LAB) Perform an admission/transfer/discharge.
22. (LAB) Assist with a physical examination.
23. (LAB) Plan a family menu for one day with consideration to nutritional and economic needs.
24. (LAB) Plan a two-day meal for individuals through each stage of the life cycle.
25. (LAB) Demonstrate the techniques in physical assessment: inspection auscultation, percussion, and palpation.
26. (LAB) Perform vital signs.
27. (LAB) Perform coughing and deep breathing exercises.
28. (LAB) Auscultate the chest breath sounds.
29. (LAB) Identify normal and abnormal breath sounds.
30. (LAB) Obtain diet history of an individual.
31. (LAB) List criteria used in assessing metabolic needs of diverse groups.
32. (LAB) Feed individuals according to age and/or specific needs.
33. (LAB) Weigh and measure individuals.
34. (LAB) Perform blood glucose test.
35. (LAB) Assist with use of bedpan/urinal.
36. (LAB) Diaper an infant.

37. (LAB) Collect urine specimen - routine/clean-catch.
38. (LAB) Calculate and record I & O.
39. (LAB) Apply urine collection devices - infants/external catheters.
40. (LAB) Assess bowel sounds.
41. (LAB) Identify methods of promoting safety across the life span.
42. (LAB) Obtain various cultures from patients - throat/wound/stool/urine.
43. (LAB) Perform proper gloving for prevention of spread of infection.
44. (LAB) Perform concurrent cleaning of patient's room.
45. (LAB) Discuss in pre- and post-conference, various isolation technique precautions.
46. (LAB) Demonstrate standard precautions.
47. (LAB) Discuss, in small groups, community resources/support systems available to promote/maintain psychosocial needs of the individual and ways of reaching self-actualization.
48. (LAB) Demonstrate safe transporting of a patient in a wheelchair, e.g., up and down ramps, on and off elevators.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Emergency Procedures
Valid Course Code:
170141

Course Description: This course will focus on potential emergency situations. It is designed to promote an understanding of standard precautions necessary for personal and professional health maintenance and infection control. Upon successful completion of the course, the student will demonstrate the necessary skills in First Aid and Cardiopulmonary Resuscitation (CPR) and will be given the opportunity to take the completion examination as outlined by the sponsoring agency.

Content/Process

Students will:

1. Demonstrate proper emergency rescue and transport procedures.
2. Analyze emergency situations and determine appropriate emergency care
3. Investigate legal and ethical issues related to emergency procedures.
4. Demonstrate correct use of PPE in relation to standard precautions for prevention or spread of disease.
5. Compose an emergency plan for the home.
6. Assess the physical and mental status of the client.
7. Research and debate issues concerning organ donation.
8. Evaluate data related to the mortality rate of the local community.
9. Identify and locate designated emergency shelters in the community.
10. Compare and contrast emergency procedures used in the media to reality.
11. Inspect the school and/or home for potential safety hazards.
12. Evaluate current health or safety issues in the community.
13. Research current data available on the economic impact of life support systems.
14. Evaluate emergency services and resources available in the community.
15. Demonstrate proficiency in CPR, AED and first aide techniques.
16. Utilize activities of HOSA-Future Health Professionals as an integral
17. Component of course content, skills application, and leadership development.
18. Use information technology applications as appropriate to health care specialties.
19. Integrate literacy and numeracy concepts and processes across all curricular units
20. Demonstrate employability and social skills relevant to careers.

Connections

- Kentucky Occupational Skill Standards/ National Health Care Skills Standards
- HOSA-Future Health Professionals (www.hosa.org)
- American Heart Association/National Safety Council
- American Red Cross/American Safety Health Institute (ASHI)
- Occupational Safety and Health Administration Standards (OSHA)

Health and Wellness for CTE Credit
Valid Course Code:
170172

Course Description:
Promotion of a healthy lifestyle through proper nutrition, physical activity, and lifestyle choices. Emphasis on holistic health care and the health care industry.

Content/Process

Students will:

1. Identify and define terms related to wellness and holistic health and discuss lifestyle choices that affect wellness.
2. Examine economic, social, cultural, and religious influences on wellness.
3. Define health, physical health and physical fitness, including what is required for optimal physical health and physical fitness.
4. Identify essential facts of required nutrients Keep a food diary and determine if nutritional needs are being met.
5. Describe alternative methods to supplement dietary needs.
6. Describe variations of normal dietary needs throughout the life cycle, including factors that influence energy requirements.
7. Describe eating disorders and ways to manage a healthy weight.
8. Determine your own ideal weight and devise a plan to maintain or attain your ideal weight.
9. Evaluate various types of physical activities and factors to be considered in a conditioning program.
10. Evaluate the importance of warm-up and cool-down periods with exercising.
11. Describe physical and mental benefits of physical activity and describe the relationship between physical fitness and the risk of health problems.
12. Describe steps to follow in starting a personal fitness regime and plan and carry out a personal fitness regime for the duration of this course.
13. Discuss the importance of sleep and identify the amount needed.
14. Discuss varying sleep disorders and associated health problems resulting from sleep deprivation.
15. Discuss how to get a good night's sleep.
16. Define mental health and mental illness.
17. Discuss the mind-body connection in maintaining wellness.
18. Discuss stress and ways to manage stress that will restore mind-body harmony.
19. Explore Alternative and Complementary Medicines.
20. Identify leading causes of death and expected lifespan. Using a life expectancy calculator calculate your own life expectancy.
21. Describe family development stages, and how the family influences health promotion practices.
22. Describe the developmental theories of Erikson, Piaget, Havighurst, and Kohlberg.
23. Explain the basic principles of growth and development as they relate to the life span.
24. Summarize major physiologic, cognitive and psychosocial development for each period beginning with conception and ending with older adulthood.
25. Describe common health problems relative to specific stages of growth and development.
26. Discuss the concepts of death and dying as they relate to the family and different age groups.
27. Utilize activities of HOSA-Future Health Professionals as an integral component and leadership development.

Connections
• Kentucky Occupational Skill Standards/National Health Care Skill Standards • HOSA-Future Health Professionals (www.hosa.org) • Omnibus Budget Reconciliation Act (OBRA) Guidelines • Secretary's Commission on Achieving Necessary Skills (SCANS) • Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Health and Wellness for Health Component
Valid Course Code:
170171

Course Description: Promotion of a healthy lifestyle through proper nutrition, physical activity, and lifestyle choices. Emphasis on holistic health care and the health care industry. Mainly contains health core content.

Content/Process

Students will:

1. Identify and define terms related to wellness and holistic health and discuss lifestyle choices that affect wellness
2. Examine economic, social, cultural, and religious influences on wellness
3. Define health, physical health and physical fitness, including what is required for optimal physical health and physical fitness
4. Identify essential facts of required nutrients and deep a food diary to determine if nutritional needs are being met
5. Describe alternative methods to supplement dietary needs
6. Describe variations of normal dietary needs throughout the life cycle, including factors that influence energy requirements
7. Describe eating disorders and ways to manage a healthy weight while maintaining your own ideal weight and devising a plan to maintain or attain your ideal weight
8. Evaluate various types of physical activities and factors to be considered in a conditioning program
9. Evaluate the importance of warm-up and cool-down periods with exercising
10. Describe physical and mental benefits of physical activity and describe the relationship between physical fitness and the risk of health problems
11. Describe steps to follow in starting a personal fitness regime and plan and carry out a personal fitness regime for the duration of this course
12. Discuss the importance of sleep and identify the amount needed
13. Discuss varying sleep disorders and associated health problems resulting from sleep deprivation
14. Discuss how to get a good night's sleep
15. Define mental health and mental illness
16. Discuss the mind-body connection in maintaining wellness
17. Discuss stress and ways to manage stress that will restore mind-body harmony
18. Explore Alternative and Complementary Medicines
19. Identify leading causes of death and expected lifespan for humans. Use a life expectancy calculator to calculate your own life expectancy
20. Describe family development stages, and how the family influences health promotion practices
21. Describe the developmental theories of Erikson, Piaget, Havighurst, and Kohlberg
22. Explain the basic principles of growth and development as they relate to the life span
23. Summarize major physiologic, cognitive and psychosocial development for each period beginning with conception and ending with older adulthood
24. Describe common health problems relative to specific stages of growth and development
25. Discuss the concepts of death and dying as they relate to the family and different age groups
26. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
27. Use information technology applications as appropriate to health care specialties.
28. Integrate literacy and numeracy concepts and processes across all curricular units
29. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Health and Wellness/Human Growth and Development: Holistic Health
Valid Course Code:
170168

Course Description: Course focus is promotion of health through assessment of individuals' growth and development across the life span. Consideration is given to the family, cultural, environmental, spiritual, and genetic influences when meeting basic human needs. This new title for this course will continue and will replace Health and Wellness/Human Growth and Development (Valid Course Code: 170168) the fall of 2015.

Content/Process

Students will:

1. Investigate factors that influence personal behaviors that impact growth and wellness.
2. Research effective interpersonal communication skills that facilitate healthy relationships.
3. Develop instruments to evaluate lifestyle practices including behavioral choices, nutrition, physical activity and safety.
4. Investigate emergency plans and strategies for disaster situations.
5. Understand the impact of communicable diseases and common diseases on a healthy lifestyle.
6. Investigate factors that influence mental and emotional well-being such as stress, abusive behaviors, peer pressure, etc.
7. Research and devise a plan to maintain emotional, physical, and mental health.
8. Compare available community resources and services to promote a healthier lifestyle.
9. Investigate factors that influence consumer decision making such as advertising techniques and nutritional analysis.
10. Investigate various stages of human growth and development.
11. Compare and contrast developmental theories as they relate to health promotion.
12. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
13. Use information technology applications as appropriate to health care specialties.
14. Integrate literacy and numeracy concepts and processes across all curricular units.
15. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Body Structures and Functions
Valid Course Code:
170167

Course Description: This course is designed to provide knowledge of the structure and function of the human body with an emphasis on normalcy. The interactions of all body systems in maintaining homeostasis will promote an understanding of the basic human needs necessary for health maintenance Academic knowledge from life science core content as it relates to the human body will be included. Laboratory activities should be a part of the course when appropriate.

Content/Process

Students will:

1. Describe the basic structures and functions of cells, tissues, organs, and systems as they relate to homeostasis.
2. Compare relationships among cells, tissues, organs, and systems.
3. Explain body planes, directional terms, quadrants, and cavities.
4. Analyze the interdependence of the body systems as they relate to wellness, disease, disorders, therapies, and care rehabilitation.
5. Compare selected diseases/disorders including respective classifications (s), causes, diagnoses, therapies, and care/rehabilitation to include biotechnological applications.
6. Analyze methods to control the spread of pathogenic microorganisms.
7. Contrast various types of immunities.
8. Analyze body system changes in light of diseases, disorders, and wellness.
9. Compare the aging process among the body systems.
10. Analyze the cause and effect on health care system change based on the influence of: technology, epidemiology, bio-ethics, socioeconomics, and various forms of complimentary (non-traditional) medicine
11. Apply Standard Precautions as described in the rules and regulations set forth by OSHA
12. Contrast medical and surgical asepsis
13. Utilize activities of HOSA-Future Health Professionals as an integral component of course content,
14. Skills application, and leadership development.
15. Use information technology applications as appropriate to health care specialties.
16. Integrate literacy and numeracy concepts and processes across all curricular units
17. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Health Science Microbiology/Infection Control
Valid Course Code:
170640

Course Description: This course is designed to promote an understanding of the effects of microorganisms on the human body. The study includes standard precautions necessary for health maintenance and infection control. The focus is on reduction of diseases that interfere with basic human needs.

Content/Process

Students will:

1. Define terms related to Microbiology
2. Discuss cell structure and taxonomy of prokaryotic/eukaryotic cells and organelles
3. Explore the diversity and physical characteristics of microorganisms including bacteria, fungi, algae, protozoa, parasites and viruses
4. Review basic chemistry concepts
5. Identify the principles of microbial growth, control and death and actions of microbial control agents
6. Discuss principles of disease, disease transmission and control, and epidemiology including commonly encountered pathological microorganisms
7. Identify methods to prevent the spread of communicable diseases (OSHA requirements) necessary for a safe work environment for the health care provider
8. Discuss human defenses against infectious diseases

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Healthcare Fundamentals/Core Skills
Valid Course Code:
170501

Course Description: Allied Health Core Skills is designed to provide knowledge, concepts and psychomotor skills necessary for gainful employment as an entry-level health care worker. Assisting students in selecting a career major, classroom instruction and educational objectives are combined with learning experiences and observations and clinical rotations. This course is designed for students not enrolled in the Medicaid Nurse Aide program and who have completed Principles of Health Science and Emergency Procedures.

Content/Process

Students will:

1. Develop and practice effective oral and written communication skills.
2. Understand the roles and responsibilities of individual members of the health care team.
3. Prepare supplies, equipment and client for procedures according to facility protocol.
4. Use accepted ethical practices with respect to cultural, social and ethnic differences.
5. Discuss legal responsibilities, limitations, and the implications of actions within the health care delivery setting.
6. Examine how key systems relate to the services performed and affect the quality of client care.
7. Prevent injury or illness through safe work practices and following health and safety policies and procedures.
8. Demonstrate professional etiquette and responsibility.
9. Demonstrate knowledge of applicable laws, statues or regulations in the career major area.
10. Demonstrate performance skills as outlined on approved internship competency list.
11. Assess client health status according to respective professional standards and report results to treatment team.
12. Demonstrate the effective use of time management skills.
13. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
14. Use information technology applications as appropriate to health care specialties.
15. Integrate literacy and numeracy concepts and processes across all curricular units.
16. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Introduction to Nursing and Healthcare Systems
Valid Course Code:
170610

Course Description: Historical overview of current health care including medical economics, ethical and legal parameters, roles and responsibilities of health care team members with an emphasis on reflective nursing practice. Medical terminology, therapeutic communication techniques, concepts of health, health assessment, self-care and basic needs related to activities of daily living (ADL) across the lifespan are explored.

Prerequisites: Current CPR card for Health Care Provider and successful completion of a Medicaid Nurse Aide equivalent course

Content/Process

Students will:

1. Explain the US health care system including delivery systems and the role of health care providers.
2. Explain the history of nursing as it relates to current practice.
3. Explain the ethical and legal parameters governing the practice of practical nursing.
4. Use medical terminology accurately and appropriately.
5. Demonstrate the use of effective therapeutic communication techniques.
6. Relate, at a beginning level, activities of daily living to client age and health status to determine care needs.
7. Collect psychosocial and functional information for the assessment of an individual's health status.
8. Provide basic health care information to promote and maintain health.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Leadership Dynamics – Health Science
Valid Course Code:
170199

Course Description: This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. The students will develop personal attributes and social skills necessary for a successful transition into the world of work, and/or further education. Emphasis will be placed on team work, problem solving, critical thinking, communication (oral and written), personal development (work ethics), and leadership. It is recommended that the student be a member of the student organization where they will have opportunities to apply the knowledge gained from this course.

Content/Process

Students will:

1. Define leadership: compare the types of leadership styles, and assess the importance of qualified leaders to the success of organizations.
2. List personal characteristics/qualities of successful leaders; construct a questionnaire and interview a person in a leadership role.
3. List leadership opportunities available in the community.
4. Develop personal and group goals.
5. Develop communication skills (verbal and written) to enhance success in school and in transition to the world of work.
6. Prepare and present an informative, illustrative, or persuasive speech; Devise and use, or use HOSA-Future Health Professionals speech rubric to critique oral presentations
7. Participate in public relations activities by speaking, writing, or making presentations to a group.
8. Prepare a press release for publication.
9. Contribute to the organization's newsletter/scrapbook, etc.
10. Contact in writing, a guest to attend an organizational meeting.
11. Demonstrate appropriate business dress and appropriate business/professional etiquette.
12. Identify official dress code for members of the student organization.
13. Demonstrate ability to tie a necktie or scarf.
14. Outline techniques used for proper business/professional etiquette: -- meeting people, travel and table etiquette.
15. Serve as host when the guest you invite attends a meeting.
16. Participate in an installation ceremony or opening and closing ceremonies
17. Analyze organizational structures and their components (including bylaws, officers, committees, and program of work: Identify mains components and compare local, state and national bylaws.
18. Prepare a program of work, including educational/leadership, civic, social, and financial activities.
19. Evaluate a previous program of work
20. Name the chapter officers and list the duties of each office; arrange in order the steps of the election process (application/nomination, test, etc.).
21. Describe how committees are established.
22. List the standing committees and their responsibilities
23. Serve as a chairperson or member of a committee
24. Demonstrate the use of parliamentary skills in presiding over a meeting.
25. Explain the history and purpose of parliamentary procedure.
26. Identify the authority used for parliamentary procedure.
27. State the function of the gavel.
28. List the steps for handling a motion; Identify the classes of motions.
29. List the rules for debate.
30. Prepare an agenda; Participate in a mock meeting.
31. Conduct research on a community organization that uses parliamentary procedure.

32. Learn about HOSA-Future Health Professionals.
33. Recite mission, motto, and creed.
34. Label parts of the emblem and explain the meaning of the colors.
35. List the organizational levels and dues for each level.
36. List publications and resource materials available.
37. Name leadership training conferences available.
38. Prepare a realistic budget based on program of work and resources available.
39. Participate in fundraising efforts.
40. List the categories of competitive events and select an event to compete in at local, regional, state or national level.
41. Develop techniques to resolve conflict that arises in the home, school, community, and workplace (conflict management).
42. Describe how ethical and social behavior affects our lives.
43. Demonstrate an awareness of cultural diversity and equity.
44. Demonstrate shared decision.
45. Identify self-management techniques.
46. Identify stress management techniques.
47. Prepare an Employability Skills Portfolio.
48. Prepare a cover letter; Resume; Application.
49. Answer in writing questions you may be asked at an interview.
50. List questions you might ask at an interview.
51. Participate in a mock interview (this could be a HOSA-Future Health Professionals Job Application Competition).
52. Write a thank you letter to the interviewer.
53. Discuss reasons for changing employment.
54. Write a letter of resignation.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Medicaid Nurse Aide
Valid Course Code:
170631

Course Description: An instructional program that prepares individuals to perform routine nursing-related services to patients in hospitals or long-term care facilities, under the training and supervision of an approved registered nurse. State Registry is available upon successful completion of state written and performance examination. Prior to offering this course, the instructor and health science program must be approved for meeting state requirements set by the Cabinet for Health and Family Services.

Content/Process

Students will:

1. Practice good personal hygiene.
2. Maintain good personal health.
3. Exhibit acceptable behavior.
4. Work cooperatively with others.
5. Maintain confidentiality.
6. Observe the Resident's Rights.
7. Identify and report abuse or neglect to appropriate person.
8. Use plan of care to meet resident's needs.
9. Communicate with resident, family, and staff.
10. Assist resident in use of intercom/call system/telephone.
11. Report observations/information to appropriate personnel.
12. Recognize health problems related to the aging process.
13. Recognize needs of the resident with cognitive impairment.
14. Assist with providing recreational activities for the resident.
15. Assist with giving postmortem care.
16. Follow standard precautions & bloodborne pathogens standard.
17. Wash hands aseptically.
18. Provide for environmental safety.
19. Adjust bed and side rails.
20. Assist with application of protective devices.
21. Report unsafe conditions to appropriate person.
22. Assist with care of resident with oxygen.
23. Follow fire and disaster plan.
24. Assist resident who has fallen.
25. Assist resident who has fainted.
26. Assist resident who is having a seizure.
27. Clear the obstructed airway - the conscious adult.
28. Using elevation, direct pressure, and pressure points to control bleeding.
29. Serve meals and collect trays.
30. Recognize diet modifications/restrictions.
31. Check food tray against diet list.
32. Feed or assist resident in eating.
33. Administer after meal care.
34. Record and report intake and output.
35. Give bed bath.
36. Assisting with the partial bath.
37. Assist resident with tub bath.
38. Assist resident with shower.
39. Make unoccupied (closed) bed.
40. Make occupied bed.
41. Perform or assist in performing oral hygiene for the conscious/unconscious resident.

42. Assist with or shave resident.
43. Give backrub.
44. Give perineal care.
45. Shampoo/groom hair.
46. Give nail care.
47. Assist resident with dressing and undressing.
48. Provide urinary catheter care.
49. Provide care for the urinary incontinent resident.
50. Provide care for the bowel incontinent resident.
51. Assist resident in bowel retraining.
52. Assist resident in using bedpan/urinal.
53. Assist with enema administration.
54. Collect routine/clean catch urine specimen.
55. Collect stool specimen.
56. Collect sputum specimen.
57. Use good body mechanics.
58. Perform or assist with range of motion exercises.
59. Turn and position the resident in bed.
60. Transfer resident to and from bed/chair.
61. Use a mechanical lift to transfer resident.
62. Apply and use gait belt.
63. Assist resident with standing/walking.
64. Assist resident in using cane/walker.
65. Transport resident by wheelchair.
66. Move resident between stretcher and bed.
67. Assist with admission, in-house transfer, and discharge of resident.
68. Measure and record resident temperature by using oral, auxiliary, rectal and tympanic routes using non-mercury glass/electronic thermometer.
69. Measure and record radial pulse.
70. Measure and record respiration.
71. Measure and record blood pressure.
72. Measure and record resident height/weight.
73. Assist in prevention of pressure/circulatory ulcers.
74. Apply elastic stockings.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Medical Math
Valid Course Code:
170181

Course Description: This course is designed to provide a review of basic mathematic skills related to dosage calculations, a thorough knowledge of the systems of measurement and conversion, and application skills to perform dosage calculations.

Content/Process

Students will:

1. Without the use of a calculator, solve problems involving addition, subtraction, multiplication, division of integers, fractions and decimals
2. Perform conversions with accuracy, interchanging apothecary, metric, and household systems
3. Describe and perform steps in dosage calculations of oral and parenteral medications
4. Describe and perform steps in pediatric dosage calculations
5. Describe and perform concepts of IV therapy calculation

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Medical Math I
Valid Course Code:
170169

Course Description: This course is designed to focus, utilize and build on mathematical skills commonly used in all health occupations. Students will use applied techniques, problem-solving and critical thinking to perform mathematical operations such as computations, ratio and proportion, weights and measurements and conversions. This course is strongly recommended for all Health Science majors. Successful completion of Algebra I is suggested prior to enrolling in this course. This course may meet the requirements for the fourth elective mathematics credit required for graduation with an allied health major.

Content/Process

Students will:

1. Perform fundamental arithmetic operations on whole numbers, fractions, decimals and percent for accuracy and speed.
2. Understand mathematical procedures and use them appropriately.
3. Accurately calculate oral and parenteral dosages.
4. Relate mathematics to activities in the health science and discuss the importance of a thorough understanding of mathematics to a successful career in the health professions.
5. Analyze and compare over-the-counter medications as to the number of doses and unit price.
6. Observe and record the ways measurement is used in a medical laboratory.
7. Use various types of graphs to interpret and analyze information.
8. Organize information using classification rules and systems (e.g. symbols, abbreviations, Roman numerals).
9. Estimate values for operations involving decimals and cognitively compute the results.
10. Represent fractions as ratios in simplest form.
11. Represent numbers in scientific notation.
12. Demonstrate knowledge of measurement systems and conversion principles.
13. Perform addition, subtraction, multiplication, and division of signed numbers.
14. Relate words to algebraic expressions.
15. Set up and solve proportions.
16. Find the mean, median, and mode for a group of values.
17. Use the 24-hour clock (military time).
18. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
19. Use information technology applications as appropriate to health care specialties.
20. Integrate literacy and numeracy concepts and processes across all curricular units.
21. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Medical Science for CTE Credit
Valid Course Code:
170162

Course Description: Medical Science for CTE Credit (***also called Basic Anatomy and Physiology***) is designed to provide knowledge of the structure and function of the human body with an emphasis on normalcy. The course includes interaction of all body systems in maintaining homeostasis and promotes an understanding of the basic human needs necessary for health maintenance. Explain the basic principles of inorganic and organic chemistry as they apply to physiological processes.

Content/Process

Students will:

1. Identify the major parts of each body system.
2. Describe the functions of each body system.
3. Discuss the interrelationships of body systems.
4. Explain the pathophysiology behind specific illnesses affecting each body system.
5. Describe factors that influence fluid and electrolyte imbalances.
6. Explain acid-base imbalance.
7. Discuss each stage of human growth and development.
8. Discuss the chemistry of life.
9. Demonstrate anatomical positions.
10. Demonstrate terminology of body directions.
11. List the body cavities and an organ located in each.
12. List the parts of a cell and describe the function of each.
13. Describe the characteristics of a cell.
14. List four types of tissue in the human body, describe the function of each, and give an example of each.
15. Define organs and describe their relationship to a body system.
16. Define homeostasis and how each body system plays a role in this process.
17. Describe matter.
18. Identify types of body fluids.
19. List major electrolytes and describe their functions necessary for homeostasis.
20. List methods by which the body normally gains, loses, and transports body fluids.
21. Discuss effects of aging on each body system.
22. Describe the functions of the skin.
23. List the layers of the skin, specific structures located in each layer, and describe the functions of each.
24. Describe the ossification process.
25. Identify four types of bones in the human body and list examples of each.
26. Describe the divisions of the human skeleton and list the bones of each division.
27. Classify types of joints, list five types of freely movable joints, and give an example of each.
28. Describe the functions of the muscular system.
29. Describe the types of muscle contractions.
30. List the major muscle groups and give examples of each.
31. List the parts of a muscle.
32. List the most common types of movement produced by skeletal muscles.
33. List the structures and describe the functions of the circulatory system.
34. List the constituents of blood and the function of each.
35. Describe four blood types and Rh factor.
36. Differentiate between blood vessel types by function and structure.
37. Identify veins for peripheral intravenous therapy.
38. Identify normal structures and functions of the heart.
39. Describe the blood supply to the heart muscle.

40. List the three circuits of circulation.
41. Describe the lymphatic system, list its structures, and describe the function accessory organs.
42. List and describe the major functions of the respiratory system.
43. List structures involved in respiration.
44. Compare and contrast the mechanism responsible for the exchange of gases that occurs during internal and external respiration.
45. List and describe three functions of the digestive system.
46. List the organs involved in digestion and describe the functions of each.
47. List accessory organs of the digestive system and describe the functions of each.
48. List and describe the functions of the urinary system.
49. List the structures and describe the functions of the organs of the urinary system.
50. List the structure of a nephron and the three steps in the process of urine production.
51. List the factors that affect urine production.
52. Describe the characteristics of normal urine.
53. List and describe the functions of the male and female reproductive system.
54. List and describe the organs and their functions of male reproductive structures.
55. List and describe the organs and their functions of female reproductive structures.
56. List the hormones associated with male and female reproduction and describe their functions.
57. Describe the menstrual, ovarian, and gonadotropic cycles.
58. Describe the functions of the mammary glands.
59. List and describe the functions of the nervous system.
60. Describe a neuron.
61. List the types of neurons by functions.
62. List two divisions of the nervous system, its structures, and describe the functions of each.
63. List the coverings and fluid spaces of the brain and spinal cord.
64. List the components and describe the functions of the autonomic nervous system and the effects they have on body structures.
65. List the structures of the eye and describe the functions of each.
66. List the structures of the ear and describe the functions of each.
67. List the sensory organs and receptors associated with the sense of taste and smell and describe the functions of each.
68. List and describe the nerve endings of the skin and the process involved in the perception of environment.
69. List and describe the functions of the endocrine system on the body.
70. Describe the effects of the endocrine system on the body.
71. List the location of each of the endocrine glands.
72. List and describe the functions of each of the hormones secreted by the endocrine glands.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Medical Terminology I
Valid Course Code:
170131

Course Description: A course designed to develop a working knowledge of language in all health science major areas. Students acquire word-building skills by learning prefixes, suffixes, roots and abbreviations. Students will learn correct pronunciation, spelling and application rules. By relating terms to body systems, students identify proper use of words in a medical environment. Knowledge of medical terminology enhances the student's ability to successfully secure employment or pursue advanced education in health care.

Content/Process

Students will:

1. Arrange word roots, prefixes, and suffixes to form medical terms.
2. Categorize word parts by body systems.
3. Interpret terms relating to all major body systems.
4. Correlate origin of terms to other languages.
5. Identify medical acronyms, homonyms and eponyms.
6. Recognize and define plural forms of medical terms.
7. Access resources to enhance understanding of medical terms.
8. Identify and use common medical abbreviations.
9. Relate medical terms to normal anatomy, growth and development, diagnostic procedures, pharmacology, surgery, mental health and medical specialties.
10. Compare the use of medical terms in the media and real-life situations.
11. Pronounce medical terms.
12. Demonstrate employability and social skills relevant to health careers.
13. Use medical terminology within a scope of practice in order to interpret, transcribe and communicate information, data and observations.
14. Recognize and define suffixes that denote noun, adjective, singular, and plural forms of medical words.
15. Categorize major prefixes in the following groups: position, number, measurement, negation, direction, and other prefixes.
16. Demonstrate the employability and social skills relevant to health careers.
17. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
18. Use information technology applications as appropriate to health care specialties.
19. Integrate literacy and numeracy concepts and processes across all curricular units

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Medical Terminology II
Valid Course Code:
170132

Course Description: A course designed to develop a working knowledge of language in all health science major areas. Students acquire word-building skills by learning prefixes, suffixes, roots and abbreviations. Students will learn correct pronunciation, spelling and application rules. By relating terms to body systems, students identify proper use of words in a medical environment. Knowledge of medical terminology enhances the student's ability to successfully secure employment or pursue advanced education in health care.

Content/Process

Students will:

1. Arrange word roots, prefixes, and suffixes to form medical terms.
2. Categorize word parts by body systems.
3. Interpret terms relating to all major body systems.
4. Correlate origin of terms to other languages.
5. Identify medical acronyms, homonyms and eponyms.
6. Recognize and define plural forms of medical terms.
7. Access resources to enhance understanding of medical terms.
8. Identify and use common medical abbreviations.
9. Relate medical terms to normal anatomy, growth and development, diagnostic procedures, pharmacology, surgery, mental health and medical specialties.
10. Compare the use of medical terms in the media and real-life situations.
11. Pronounce medical terms.
12. Demonstrate employability and social skills relevant to health careers.
13. Use medical terminology within a scope of practice in order to interpret, transcribe and communicate information, data and observations.
14. Recognize and define suffixes that denote noun, adjective, singular, and plural forms of medical words.
15. Categorize major prefixes in the following groups: position, number, measurement, negation, direction, and other prefixes.
16. Demonstrate the employability and social skills relevant to health careers.
17. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
18. Use information technology applications as appropriate to health care specialties.
19. Integrate literacy and numeracy concepts and processes across all curricular units

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Pharmacological and Other Therapeutic Modalities
Valid Course Code:
170614

Course Description: Introduction to techniques used to administer commonly used drugs; dosage calculations; diagnostic studies and other related medical therapies; legal responsibilities.

Prerequisities: Current CPR card for Health Care Provider and Successful completion of Medicaid Nurse Aide course

Content/Process

Students will:

1. Calculate drug dosages accurately.
2. Identify the fundamental principles related to pharmacology when administering medications.
3. Identify legal and ethical responsibilities of the practical nurse when administering medications.
4. Identify common therapeutic and diagnostic procedures with pharmacological implications.
5. (LAB) Perform conversions with accuracy interchanging apothecary, metric and household systems.
6. (LAB) Perform steps in dosage calculations of oral and parenteral medications.
7. (LAB) Perform steps in pediatric dosage calculations.
8. (LAB) Perform IV therapy calculations.
9. (LAB) Practice interpreting abbreviations and symbols of medication orders.
10. (LAB) Discuss the significance of Controlled Substance ACT of 1970.
11. Discuss the legal/ethical nursing responsibilities related to medications.
12. (LAB) Discuss, in small groups, nurse's role in drug action/interaction.
13. (LAB) List the "rights of drug administration."
14. (LAB) List causes of common medication errors.
15. (LAB) Practice various routes of administering drugs in simulated situations and in the clinical facility.
16. (LAB) Practice calculating selected drug dosages.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Nursing Assisting Skills II
Valid Course Code:
170613

Course Description: Provides knowledge and skills for nurse aides to assume the role and responsibility required in a variety of health care settings. Builds upon MNA 100/NAA 100 and prepares the student to perform basic nursing skills at an advanced level.

Content/Process

Students will:

1. Demonstrate an understanding of the role of the nursing assistant in a variety of settings.
2. Demonstrate all identified basic nursing skills with safety and efficiency.
3. Organize and perform care for assigned clients in an responsible manner.
4. Use effective communication techniques with clients, families and other members of the healthcare team.
5. Explain situations that may impact the client/families rights or well-being.
6. Identify and report client knowledge deficits and support need and provide basic instruction as directed.
7. Recognize situations beyond ones knowledge and experience and reports appropriately.
8. Standard Precautions (Body Substance Isolation).
9. Handwashing.
10. Vital signs.
11. Weight/Height.
12. Bedmaking.
13. Hygienic Care.
14. Back Massage.
15. Application of Soft Restraints.
16. Measuring Intake and Output.
17. Assisting/Feeding Clients.
18. Enema.
19. Mobility.
20. Positioning Client.
21. Range of Motion.
22. Assisting Client In and Out of Bed.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Dental Assistant
Valid Course Code:
170552

Course Description: This course is designed to assist students with developing skills needed to be successful dental assistants and responsible members of the healthcare society. The students will develop skills performed by the dental assistant. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Use correct dental terminology when describing the teeth or landmarks of the teeth.
2. Name the universal codes for each tooth in the permanent tooth.
3. Provide the current location of each permanent tooth.
4. Identify and describe oral lesions.
5. Demonstrate procedures for performing hard tissue charting and accurately record the findings.
6. Demonstrate process of performing extraoral and intraoral examinations and record the findings.
7. Use correct dental terminology when describing the teeth or landmarks of the teeth.
8. Name the universal codes for each tooth in the permanent tooth.
9. Provide the current location of each permanent tooth.
10. Describe oral lesions.
11. Demonstrate procedures for performing hard tissue charting and accurately record the findings.
12. Demonstrate process of performing extraoral and intraoral examinations and record the findings.
13. Explain the process of tooth decay and the various stages.
14. List three types of dental delivery systems.
15. Apply the principles of chair side assisting to each specialty area.
16. Define pediatric dentistry and procedures common to this specialty.
17. Identify the role of the dental assistant in pediatric dentistry.
18. Discuss effective management of the pediatric patient in the dental operatory.
19. Describe the design of a dental treatment room.
20. List the type of dental equipment in a dental treatment room and their function.
21. Describe how to prepare a dental treatment room for patient treatment.
22. Describe the positioning of the patient and dental team.
23. Describe the principles of transferring and exchanging instruments.
24. Describe the three parts of a dental hand instrument.
25. List the types of hand cutting instruments and their use.
26. List the types of restorative instruments and their use.
27. Describe additional accessory instruments used in dentistry.
28. Describe the use of preset trays and tubs.
29. List instruments and supplies contained in a basic setup.
30. Describe the low speed hand piece.
31. Describe the attachments used on the low speed hand piece.
32. Describe the high speed hand piece and its use.
33. Describe rotary instruments and how they are used.
34. List the parts of a bur.
35. Demonstrate procedures used in moisture control.
36. Demonstrate the grasp and positioning of the dental assistant when using the high volume oral evacuator tip.
37. Demonstrate the use of the air water syringe.
38. Correctly follow tooth selection criteria for sealant placement.

39. Discuss/demonstrate accepted sequence in sealant placement.
40. Process exposed intraoral and extraoral dental radiographs.
41. Clean x-ray processing equipment.
42. Mount and label radiographs .
43. Prepare radiographs for legal requirements , viewing and filing.
44. Maintain radiographic equipment.
45. Provide patient safely measures and educate patient in radiographic safety.
46. Practice operator safety measures.
47. Monitor personal radiation exposure.
48. Identify principles and functions of extraoral dental.
49. Expose extra-oral dental radiographs.
50. Interpret common conditions found on intraoral and extraoral dental radiographs.
51. Mount and label radiographs.
52. Prepare radiographs for legal requirements viewing and filing.
53. Select appropriate dental film.
54. Prepare/ assist with temporary crowns.
55. Apply pit and fissure sealants.
56. Prepare, mix, transfer and store restorative materials.
57. Prepare , mix , transfer and store sedative/palliative materials.
58. Select, manipulate and store impression materials.
59. Apply OSHA safety measures when using toxic dental materials or irritants.
60. Prepare , mix , transfer and store impression materials.
61. Select , manipulate and store gypsum products.
62. Take impressions for study casts.
63. Fabricate and evaluate diagnostic casts.
64. Articulate casts.
65. Fabricate custom impression trays.
66. Apply safety measures when using gypsum materials.
67. Place, carve and finish amalgam restorations.
68. Other duties as assigned.
69. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
70. Use information technology applications as appropriate to health care specialties.
71. Integrate literacy and numeracy concepts and processes across all curricular units.
72. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Dietetic Technician
Valid Course Code:
170553

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Dietetic Technician. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems affected by or treated by diet.
9. Receive work experience related to the Dietetic Technician worker career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Dietetic Technician career.
14. Demonstrate knowledge of first aid, safety and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Dietetic Technician.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
24. Demonstrates knowledge of standard weights and measurements.
25. Identify all types of diets.
26. Prepare serving counter for client food service.
27. Serve food at assigned station throughout serving period.
28. Clear counter of food at end of serving period.
29. Identify procedures to be used in delivering trays to clients in isolation.
30. Deliver food carts to proper stations.
31. Deliver and serve food trays.
32. Set up clients' food trays.
33. Pour liquids for meals.
34. Pick up patients' trays and chart amount consumed.
35. Pick up carts from floors.
36. Return trays to serving line.

37. Prepare and serve dietary supplements.
38. Prepare simple foods.
39. Identify and assist in preparing special diets.
40. Prepare hot and cold beverages.
41. Assist clients in filling out menus.
42. Collect client menus.
43. Scrape food from dishes into garbage disposal.
44. Place flatware in soak sink.
45. Put paper and plastic items in proper containers.
46. Send dishes, glassware, flatware, water pitchers, and trays through dishwashing machine.
47. Place clean dishes in proper carrier and return to cafeteria serving areas.
48. Return flatware in cylinders to serving area.
49. Restock isolation trays, flatware, and plastic bags.
50. Assemble serving utensils.
51. Wrap flatware.
52. Rinse and stack all soiled dishes.
53. Wash and rinse soiled pots and pans.
54. Collect garbage from all dietary areas.
55. Perform assigned cleaning duties.
56. Collect and place garbage and trash in designated containers.
57. Restock shelves.
58. Requisition supplies.
59. Complete inventory.
60. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
61. Use information technology applications as appropriate to health care specialties.
62. Integrate literacy and numeracy concepts and processes across all curricular units.
63. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Dispensing Optician
Valid Course Code:
170554

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Dispensing Optician. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Dispensing Optician career prior to graduation.
10. Integrate classroom studies with work experience.
11. Increase employability potential after graduation.
12. Receive exposure to facilities and equipment unavailable in a classroom setting.
13. Demonstrate performance skills related to the Dispensing Optician career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Dispensing Optician career.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and standard precautions.
22. Recognize and provide environmental, personal, and staff safety.
23. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
24. Greet and dismiss patients and visitors.
25. Process walk-in patients.
26. Obtain new patient information (registration form).
27. Compile charts for scheduled patients.
28. Make appointment for patient with another physician, e.g. consultant.
29. Provide name and number of another physician for consultation, referral.
30. Verify patient appointments.
31. Call patients to reschedule appointments.
32. Schedule follow-up visits.
33. Maintain system for reminding patients of routine re-examination.
34. Record failed/canceled appointments.
35. Follow-up on patients who do not keep appointments.

36. Check tape on phone answering machine, if applicable.
37. Check with answering service, if applicable.
38. Explain doctor's unavailability to patients in waiting room.
39. Assist with client services.
40. Deal with sales/detail representatives.
41. Answer questions related to office protocol or procedures.
42. Make current periodicals available to patients.
43. Maintain inventory.
44. Order office supplies.
45. Replenish physician's desk supplies.
46. Order and verify contact lenses.
47. Order frame, lenses, and medications.
48. Assist in posting of patient's charges, payments, and issuing of receipts.
49. Assist with making bank deposits.
50. Select correct class of postage.
51. Operate postage meter, if available.
52. Post mailing.
53. Process incoming mail.
54. File charts; both electronic and paper.
55. Identify equipment and supplies used.
56. Escort patient to appropriate examination/treatment room with instructions.
57. Assist the handicapped/ill patients.
58. Assist in screening patients for visual acuity, near and far.
59. assist in screening patients for visual acuity, depth perception
60. assist in screening patients for visual acuity, color perception
61. assist in screening patients for visual acuity, macula integrity
62. operate visual field machine
63. edge and insert lenses into frame, tint lenses to patient specifications
64. assist with frame selection, dispensing, adjusting, and repairs
65. observe performance of tonometry test
66. utilize disinfection procedures for cleaning instruments
67. keep physician's office/reception area tidy
68. keep waiting room tidy
69. utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development
70. use information technology applications as appropriate to health care specialties
71. integrate literacy and numeracy concepts and processes across all curricular units
72. demonstrate employability and social skills relevant to health careers

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Electrocardiogram (EKG) Technician
Valid Course Code
170555

Course Description: Material covered will include: Anatomy and Electrophysiology of the Heart, The Electrocardiogram; Heart Rate; Regularity; P Waves; QRS Complexes; PR Intervals; Sinus Node Dysrhythmias; Atrial Dysrhythmias; Junctional Dysrhythmias; Ventricular Dysrhythmias; AV Heart Blocks; Electrical Axis; Hypertrophy, Bundle Branch Block, and Pre-excitation; Myocardial Ischemia and Infarction; and Other Cardiac Conditions and the ECG . Students will also be required to document and complete 10 live EKG's under the supervision of the teacher or a health professional. Upon completion of this internship, students are eligible to take the EKG Technician Certification examination in order to obtain national certification. This internship requires supervised on-the-job work experience related to the students' education objectives in the area of EKG Technician. Students participating in the internship do not receive compensation.

Content/Process

Students will:

1. Calculate a patient's heart rate from the EKG tracing (e.g., 6-second method, R to R, sequencing).
2. Identify artifacts from the tracing (e.g., wandering baseline, somatic, electrical).
3. Resolve artifacts from the tracing (e.g., wandering baseline, somatic, electrical).
4. Record an EKG lead on a patient (3-lead, 5-lead, 12-lead).
5. Verify the leads recorded on an EKG.
6. Upload a completed EKG to a patient's electronic medical record.
7. Mount a completed EKG for a patient's chart.
8. Measure a patient's heart rhythm from the EKG tracing.
9. Inspect the waveforms of a cardiac cycle for symmetry, direction, and amplitude (e.g., P waves, QRS Complexes, ST segments, T waves).
10. Measure a patient's heart conduction from the EKG tracing (e.g., PR-interval (PRI), QRS duration, QT-interval).
11. Identify the major classifications of arrhythmias from the EKG tracing (e.g., sinus, atrial, ventricular, and junctional).
12. Identify the major variances to waveforms related to ischemia, injury, or infarction.
13. Respond to potentially life threatening arrhythmias.
14. Verify EKG machine paper speed (e.g., 25mm, 50mm).
15. Verify EKG machine sensitivity (e.g., h, 1, 2).
16. Maintain EKG equipment and the work environment.
17. Recognized pacemaker spikes on an EKG trace.
18. Prepare the patient for EKG monitoring, Holter monitoring, Stress testing, and telemetry monitoring (e.g., patient history, cardiac medications, patient positioning).
19. Apply electrodes on patients for EKG, Holter monitoring, Stress testing, Telemetry, pediatric patients, and patients with special considerations (e.g., right sided heart, posterior chest, amputations).
20. Respond to signs and symptoms of cardiopulmonary compromise.
21. Adhere to HIPAA regulations regarding Protected Health Information (PHI).
22. Monitor patient condition during stress testing.
23. Respond to complications during stress testing.
24. Verify patient understanding of Holter monitor procedures.
25. Obtain patient vital signs (e.g., heart rate, respirations, temperature, blood pressure, pulse oximetry).
26. On an illustration, identify the structures of the heart and describe their function.
27. On an illustration, trace the flow of blood through the pulmonary and systemic circulatory systems.

28. Describe the electrophysiology of the heart and relate the events of cardiac conduction to the electrocardiogram.
29. Outline the process of electrocardiography.
30. Explain the purpose of measuring the standard 12 lead electrocardiogram.
31. List standards of calibrating and providing general maintenance of an electrocardiograph.
32. Explain the method and rational for measuring the EKG/ECG in the exercising patient including safety hazards.
33. Evaluate the electrocardiogram for cardiac rate, rhythm, and the presence of absence of ectopic beats.
34. Recognize PAC's, atrial fibrillation, atrial flutter, PVC's, ventricular tachycardia, and ventricular fibrillation.
35. Recognize and describe the actions of various common cardiovascular agents.
36. Discuss arrhythmias and identify how to interpret those of the sinoatrial mode, sinus tachycardia, sinus arrest, and sinus bradycardia.
37. Discuss first-degree and second-degree AV block and explain how they can be identified on the ECG/EKG.
38. Explain the difference between right and left bundle branch blocks and briefly define how each can be identified on an ECG/EKG.
39. Discuss the role of the ECG/EKG technician as it relates to patient care and recording of the ECG.
40. Identify and describe the various types of equipment and supplies used in monitoring and recording electrocardiograms.
41. Perform basic lead placement on the adult, pediatric, and neonatal patient.
42. Prepare and position patient for testing.
43. Attach electrodes to the patient's chest, arms, and legs, connect electrodes to leads from the EKG machine, and operate the machine to obtain a reading.
44. Explain testing procedures to patient to obtain cooperation and reduce anxiety.
45. Monitor patients' blood pressure and heart rate using electrocardiogram (EKG) equipment during diagnostic and therapeutic procedures to notify the physician if something appears wrong.
46. Monitor patients' comfort and safety during tests, alerting physician to abnormalities or changes in patient responses.
47. Observe gauges, recorder, and video screens of data analysis system during imaging of cardiovascular system.
48. Adjust equipment and controls according to physician's orders or established protocol
49. Check, test, and maintain cardiology equipment.
50. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
51. Use information technology applications as appropriate to health care specialties.
52. Integrate literacy and numeracy concepts and processes across all curricular units.
53. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Funeral Attendant
Valid Course Code:
170568

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Funeral Attendant. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Receive work experience related to the Funeral Attendant career prior to graduation.
9. Integrate classroom studies with work experience.
10. Receive exposure to facilities and equipment unavailable in the classroom setting.
11. Increase employability potential after graduation.
12. Demonstrate performance skills related to the Funeral Attendant career.
13. Demonstrate professional etiquette and responsibilities.
14. Demonstrate effective communication skills.
15. Practice team building concepts.
16. Demonstrate effective use of time management skills.
17. Incorporate use of related medical terminology/theory related to the Funeral Attendant.
18. Demonstrate correct observation skills.
19. Recognize and provide environmental, personal, and patient safety.
20. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and standard precautions.
21. Describe basic similarities of funeral customs.
22. Demonstrates understanding of individual psychological needs and stages of grieving.
23. Demonstrates knowledge of funeral management.
24. Identifies various types of caskets.
25. Demonstrates general knowledge of chemicals used in the facility.
26. Demonstrates understanding of a staff member's ability to handle a "death call."
27. Demonstrates understanding of a staff member's duties and responsibilities while making a "first call."
28. Demonstrates knowledge of an "after service call."
29. Assist with general care of the deceased.
30. Places casket in parlor or chapel.
31. Directs or escorts mourners.
32. Assists to "close" casket.
33. Carries flowers to hearse or limousine.
34. Acts as a pallbearer.
35. Assists with general upkeep of the facilities.
36. Utilize activities of HOSA-Future Health Professionals as an integral component of course

content, skills application, and leadership development.

37. Use information technology applications as appropriate to health care specialties.
38. Integrate literacy and numeracy concepts and processes across all curricular units.
39. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Medical Assistant
Valid Course Code:
170556

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Medical Assistant. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Medical Assistant career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Medical Assistant Career.
14. Demonstrate knowledge of first aid, safety and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Medical Assistant career.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Follow safety and emergency procedures.
24. Report unsafe conditions.
25. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
26. Demonstrate typing, medical transcription, and computer literacy skills.
27. Maintain appointment book according to protocol.
28. Verify patient appointments.
29. Call patients to reschedule appointments.
30. Maintain system for reminding patients of routine re-examination.
31. Make appointment for patient with another physician, e.g. consultation.
32. Complete and maintain patient medical treatment records.
33. File records accurately.
34. Use correct technique for correcting written errors.
35. Complete Medicare/Medicaid/private carrier insurance forms.

36. Retrieve information to use CPT and ICD code books and record on proper forms.
37. Record and keep record of all phone conversations.
38. Collect charts for patients to be seen each day.
39. Explain physician's unavailability to patients in waiting room.
40. Answer questions concerning physician's hours/qualifications/fees.
41. Handle emergency calls.
42. Keep waiting room and physician's office/reception area tidy.
43. Make current periodicals available to patients.
44. Order office supplies.
45. Replenish physician's desk supplies.
46. Assist in posting of patient's charges, payments, and issuing of receipts.
47. Route patients, on arrival, for scheduled lab work before seeing the physician.
48. Escort patient to appropriate examination/treatment area.
49. Assist the handicapped patient.
50. Measure and record vital signs, including height and weight.
51. Properly position and drape patient for various procedures.
52. Fill out requisitions for lab tests.
53. Observe or assist with glucometer readings, pro-times, hemoglobin and urinalysis.
54. Observe lab work being drawn.
55. Assist with EKG's.
56. Observe or assist in setting up for ultrasound.
57. Observe and assist in minor surgical procedures.
58. Assist in setting up for X-ray.
59. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
60. Use information technology applications as appropriate to health care specialties.
61. Integrate literacy and numeracy concepts and processes across all curricular units.
62. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Medical Laboratory Aide (Phlebotomist)
Valid Course Code:
170567

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Medical Laboratory Aide/Phlebotomist. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure for the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major .
9. Receive work experience related to the Medical Laboratory Aide/Phlebotomist career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Medical Laboratory Aide/Phlebotomist career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Medical Laboratory Aide/Phlebotomist career.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Follow safety and emergency procedures.
24. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
25. Receive patients and visitors.
26. Observe, record and report patient data.
27. Prepare accident and incident reports as necessary.
28. Assist with data entry and billing procedures.
29. Identify supplies and equipment commonly used in lab procedures.
30. Assist with quality control checks of equipment.
31. Log incoming and outgoing specimens.
32. Deliver supplies and lab specimens to designated areas.
33. Prepare specimens for shipment.
34. Maintain lab work surfaces and glassware using proper cleaning and safety procedures.

35. Use appropriate sterilization procedures.
36. Distribute supplies to appropriate laboratory section.
37. Maintain inventory.
38. Maintain routine lab chemical solutions. Label and store properly.
39. Prepare urine for microscopic examination.
40. Prepare and distribute 24 hour urine collection containers.
41. Differentiate between various kinds of collection tubes and anticoagulants.
42. Identify normal values for blood and urine.
43. Name the components of a complete blood count (CBC).
44. Collect fluid and/or tissue specimens using appropriate collection procedures. Explain collection procedures to patients.
45. Match laboratory requisition forms to specimen tubes.
46. Document route of specimens from collection to laboratory analysis and diagnosis.
47. Assist and draw blood from capillaries by dermal puncture, such as heel or finger stick methods.
48. Assist and draw blood from veins by vacuum tube, syringe, or butterfly venipuncture methods.
49. Assist and draw blood from arteries, using arterial collection techniques.
50. Dispose of contaminated sharps, in accordance with applicable laws, standards, and policies.
51. Dispose of blood or other biohazard fluids or tissues, in accordance with applicable laws, standards, and policies.
52. Identify potential hazards in the lab.
53. Obtain a copy of MSDS sheets for materials used in the lab.
54. Explain the use of the safety shower and safety apparel.
55. Demonstrate procedure for use of the eyewash station.
56. Organize and clean blood-drawing trays, ensuring that all instruments are sterile and all needles, syringes or related items are of first-time use.
57. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
58. Use information technology applications as appropriate to health care specialties.
59. Integrate literacy and numeracy concepts and processes across all curricular units.
60. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Occupational Therapy Aide
Valid Course Code:
170569

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Occupational Therapy Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to Occupational Therapy Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Occupational Therapy facility.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Occupational Therapy Aide.
20. Demonstrate correct observation skills.
21. Recognize and provide environmental, personal, and patient safety.
22. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and standard precautions.
23. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
24. Schedule appointments for the patient.
25. Receive patients and visitors.
26. Prepare area and patient for treatment.
27. Observe, record and report patient data.
28. Write reports concerning patient progress, attitudes, attendance and accomplishments.
29. Prepare accident and incident reports as necessary.
30. Maintain procedures for legal access to patient and/or records.
31. Assist with patient teaching as prescribed.
32. Reinforce instructions from other health professionals to patient and family.
33. Instruct patients and families in work, social, and living skills.
34. Instruct patients and families in skills to facilitate home and work adjustment to disability.
35. Provide assistance to the visually impaired patient.

36. Communicate with the hearing impaired patient.
37. Provide emotional and spiritual support for patient and family.
38. Set up equipment and supplies for treatment.
39. Maintain inventory of equipment, and educational supplies.
40. Evaluate equipment for service repair.
41. Arrange for maintenance and repair of equipment.
42. Clean, stock, and store equipment and supplies.
43. Supervise patients in choosing and completing work assignments or arts and crafts projects.
44. Evaluate the living skills and capacities of physically, developmentally, or emotionally disabled clients.
45. Assist occupational therapists in planning, implementing, and administering therapy programs to restore, reinforce, and enhance performance, using selected activities and special equipment.
46. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
47. Use information technology applications as appropriate to health care specialties.
48. Integrate literacy and numeracy concepts and processes across all curricular units.
49. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Personal and Home Health Aide
Valid Course Code:
170557

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Personal and Home Health Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Personal and Home Health Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Personal and Home Health Aide career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Personal and Home Health Aide career.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Follow safety and emergency procedures.
24. Report unsafe conditions.
25. Demonstrate proper use of the telephone, intercom system, and copy/fax machine.
26. Perform competencies from MNA 100.
27. Maintain records of patient care, condition, progress or problems, and discuss observations with supervisor or case manager.
28. Wash and iron patient laundry.
29. Clean patient living quarters.
30. Provide diversionary activities (entertain, converse with patient, read aloud to patient, etc…).
31. Plan, purchase, prepare and/or serve meals to patient according to prescribed diet.
32. Direct patient in simple prescribed exercise.
33. Change dressings.
34. Run errands and obtain household supplies.

35. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course.
36. Content, skills application, and leadership development.
37. Use information technology applications as appropriate to health care specialties.
38. Integrate literacy and numeracy concepts and processes across all curricular units.
39. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Pharmacy Technician
Valid Course Code:
170558

Course Description: This course must be completed in conjunction with the PLTW Biomedical Innovations (BI) course during the student's senior year. This internship is completed as an independent study course in addition to the BI requirements and in place of Optional Problem 8. Material covered will include: Orientation, Federal Law, Medication Review, Aseptic Techniques, Calculations, and Pharmacy Operations. It is suggested that students complete and document at least 5-10 hours of observation and/ or interview with a pharmacist or pharmacy technician. Upon completion of this internship, students are eligible to take the Pharmacy Technician Certification Board examination in order to obtain national certification. This internship requires supervised on-the-job work experience related to the students' education objectives in the area of Pharmacy Technician. Students participating in the internship do not receive compensation.

Content/Process

Students will:

1. Understand, discuss and define basic pharmacy terms and definitions.
2. Discuss the Pharmacy Technician Certification Board, its founding members and purpose.
3. Understand the PTCB certification examination structure, time allowed for exam, and broad topic content are reviewed.
4. Detail the requirements and process needed to maintain certification.
5. Understand Federal Laws that affects the Pharmacy Industry.
6. Discuss different laws and legislation that affect the Pharmacy Industry (when they were enacted and their importance).
7. Discuss the importance of the Controlled Substance Act of 1970.
8. Outline filing procedures, maintaining records according to State and Federal Laws, and drug substitution requirements.
9. Illustrate how a Doctor's DEA Number is determined and it's purpose.
10. Discuss storage requirements for Schedule II Drugs.
11. Define the four phases of Investigational Drugs.
12. Define Pharmacology (the varied types of drugs, prescription types, medication dosage forms, and medical devices are discussed).
13. List drug interactions on the human body's major systems.
14. Review the different types of medication dosages (i.e., tablets, caplets, liquids, creams, emulsions, etc.).
15. Describe the different types of administration devices for certain medications and dosages.
16. Review drugs on the Central Nervous System (to include drug interactions, mechanism of action and manufacturer named drugs). .
17. Review drugs which effect the Peripheral Nervous System (to include drug interactions, mechanism of action and manufacturer named drugs).
18. Review of drugs classified as hormones (to include drug interactions, mechanism of action and manufacturer named drugs).
19. Review of drugs that effect the Cardiovascular System (to include drug interactions, mechanism of action and manufacturer named drugs)
20. Review of drugs which affect the Renal System (to include drug interactions, mechanism of action and manufacturer named drugs).
21. Review of drugs classified as Anti-Infectant Drugs (to include drugs interactions, mechanism of action and manufacturer named drugs).
22. Review of drugs classified as Chemotherapy drugs (to include drug interactions, mechanism of action and manufacturer named drugs).
23. Review of blood and blood formation drugs is done (to include drug interactions, mechanism of action and manufacturer named drugs).

24. Review of Vitamins (to include drug interactions, mechanism of action and manufacturer named drugs).
25. Practice and demonstrate aseptic techniques.
26. Demonstrate the proper use of various types of syringes.
27. Define the uses of parenteral routes.
28. Identify the four most widely used parenteral routes.
29. Review of sterile compounding procedures.
30. Review the uses of various solutions used in Pharmacy (irrigation solutions, parenteral solutions, and TPNs).
31. Examine the safe handling of Antineoplastic agents used in the treatment of cancer is provided.
32. List the steps of a Parenteral Admixture Order.
33. Calculate dosages through the aspects of Pharmacy mathematics.
34. Convert units of measurement for the Metric, Avirdupois, and Apothecary systems.
35. Interpret abbreviations and Roman Numerals used in prescriptions.
36. Practice the basics of fractions, decimals and percent as used in Pharmacology.
37. Convert Fahrenheit – Centigrade temperatures.
38. Utilize ratio proportion relationships for chemical mixtures used in pharmacy.
39. Calculate the amount of drug product to dispense, or the number of days' supply from a dosage regimen.
40. Determine the flow rate of an IV solution.
41. Calculate powder volume.
42. Review of various pricing methods used in retail pharmacy.
43. Manage inventory controls of the Pharmacy business with an overview of insurance claims and "Third Party" reimbursement.
44. Maintain an accurate patient profile.
45. Detail what should be collected for a proper patient profile.
46. Define key terms used in inventory management.
47. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
48. Use information technology applications as appropriate to health care specialties.
49. Integrate literacy and numeracy concepts and processes across all curricular units
50. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Physical Therapy Aide
Valid Course Code:
170559

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Physical Therapy. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Physical Therapy Technician career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Physical Therapy Technician career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Physical Therapy Technician career.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
24. Schedule appointments for the patient.
25. Prepare area and patient for treatment, including equipment and supplies.
26. Receive patients and visitors.
27. Assist in care of patient’s valuables.
28. Attend to physical therapy records.
29. Compile departmental and equipment data.
30. Observe, record and report patient data.
31. Relate facts, ideas, and feelings by communicating with staff and family.
32. Write reports concerning patient progress, attitudes, attendance and accomplishments.
33. Assist with patient and family teaching as prescribed.
34. Provide assistance to the visually impaired patient.
35. Communicate with the hearing impaired patient.

36. Provide emotional and spiritual support for patient and family.
37. Respond to emotional needs of the terminally ill patient and family.
38. Check therapeutic air and water temperatures.
39. Measure and record vital signs, including height and weight.
40. Assist patient in dressing and undressing.
41. Position and drape for physical exam/treatment.
42. Turn and position patient, logroll as necessary.
43. Assist patient in using bedpan and urinal.
44. Apply and remove adaptive and supportive devices.
45. Maintain all equipment and instruments.
46. Evaluate and report equipment needs for service repair.
47. Clean, stock and store equipment and supplies.
48. Prepare soiled linen for laundry.
49. Assist with application of brace and splint.
50. Adjust parallel bars to correct height.
51. Assist patient with dangling, standing, and ambulation.
52. Demonstrate correct transfer techniques when moving a patient using appropriate equipment.
53. Adjust canes, crutches, and walkers.
54. Assist patient to walk with a cane, crutches, or walker.
55. Assist with application of protective restraints.
56. Assist with catheters and drainage tubing care.
57. Assist with active and passive range of motion exercises.
58. Assist with exercises for arthritic patients.
59. Assist with a paraffin bath.
60. Assist with electrical stimulation treatment.
61. Apply hot and cold treatments.
62. Assist with dressing changes.
63. Apply anti-embolism elastic stockings.
64. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
65. Use information technology applications as appropriate to health care specialties.
66. Integrate literacy and numeracy concepts and processes across all curricular units.
67. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Psychiatric Aide
Valid Course Code:
170560

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Psychiatric Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choice(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Psychiatric Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Psychiatric Aide career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Psychiatric Aide.
20. Demonstrate correct observation skills.
21. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
22. Recognize and provide environmental, personal, and patient safety.
23. Follow safety/emergency procedures and report unsafe conditions.
24. Demonstrate proper use of the telephone, intercom system, and copy/fax machine.
25. Demonstrate knowledge of current trends in practice and treatment in mental health.
26. Perform applicable competencies from MNA 100.
27. Monitor patients in order to detect unusual behavior, and report observations to professional staff.
28. Provide mentally impaired or emotionally disturbed patients with routine physical, emotional, psychological or rehabilitation care under the direction of nursing and medical staff.
29. Work as part of a team that may include psychiatrists, psychologists, psychiatric nurses, and social workers.
30. Observe the speech therapist, physical therapist, occupational, and recreational therapist as they interact with the patient.
31. Aid patients in becoming accustomed to hospital routine.
32. Assist to organize, supervise, and encourage patient participation in social, educational, and recreational activities.

33. Escort patients to various areas in the facility.
34. Provide diversionary activities (entertain, converse with patient, read aloud to patient, etc…).
35. Observe behavior management.
36. Observe and assist in reducing behavior through reinforcements.
37. Participate in individual and group therapy as permissible.
38. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
39. Use information technology applications as appropriate to health care specialties.
40. Integrate literacy and numeracy concepts and processes across all curricular units.
41. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Radiographic Aide
Valid Course Code
170564

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Radiographic Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to the Radiographic Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Radiologic Aide career.
14. Demonstrate knowledge of first aid, safety and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Radiographic Aide.
20. Research common diseases or problems associated with career major.
21. Demonstrate correct observation skills.
22. Perform procedures to prevent disease transmission, utilizing OSHA, CDC regulations, and standard precautions.
23. Recognize and provide environmental, personal, and staff safety.
24. Report unsafe conditions.
25. Demonstrate proper use of communication technology (phone, internet, etc.) used in the career area.
26. Draw an organizational chart of the radiology department.
27. Greet and dismiss patients and visitors.
28. Schedule patients for x-rays.
29. Check card file for record of previous x-rays on patients.
30. Fill out x-ray ID card.
31. File reports with films.
32. File x-ray film folders.
33. Distribute cassettes to proper x-raying room.
34. Obtain patient’s chart from nurse’s station.
35. Distribute supplies.
36. Obtain preparation trays for special procedures from central supply.

37. Prepare charge slips for services rendered.
38. Prepare outpatients for radiological studies.
39. Assist the patient in using a bedpan.
40. Assist the patient in using the urinal.
41. Assist in administering an enema.
42. Assist in positioning patients for x-rays.
43. Observe the administration of appropriate chemical mixtures to patients under the direction of the radiologist/technician.
44. Assist in the preparation of trays for special examinations.
45. Identify and describe the major components of the control panel.
46. Operate the automatic processor.
47. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
48. Use information technology applications as appropriate to health care specialties.
49. Integrate literacy and numeracy concepts and processes across all curricular units.
50. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Speech Therapy Aide
Valid Course Code:
170565

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Speech Therapy Aide. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA.
2. Gain career awareness and the opportunity to test career major choices(s).
3. Name credentialing agencies for careers related to career major.
4. Trace the organizational structure of the career major and affiliating agency.
5. Research the history and rationale of career major specialty.
6. Identify the different specialties in the career major.
7. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
8. Research common diseases or problems associated with career major.
9. Receive work experience related to Speech Therapy Aide career prior to graduation.
10. Integrate classroom studies with work experience.
11. Receive exposure to facilities and equipment unavailable in a classroom setting.
12. Increase employability potential after graduation.
13. Demonstrate performance skills related to the Speech Therapy Aide career.
14. Demonstrate knowledge of first aid and CPR as they relate to the area.
15. Demonstrate professional etiquette and responsibilities.
16. Demonstrate effective communication skills.
17. Practice team building concepts.
18. Demonstrate effective use of time management skills.
19. Incorporate use of related medical terminology and theory related to the Speech Therapy Aide career.
20. Demonstrate correct observation skills.
21. Recognize and provide environmental, personal, and patient safety.
22. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and standard precautions.
23. Follow safety and emergency procedures.
24. Explain how the facial muscles assist speech.
25. Describe the different bones in the body, focusing on those of the face.
26. Define and describe the autonomic nervous system and the effect on speech.
27. Explain the parasympathetic and sympathetic nervous systems; their functions and interrelationships particularly dealing with speech.
28. Identify the major muscles and muscle groups in the body and describe their functions in relation to speech.
29. List the phases of adjustment for a person who has speech difficulties.
30. Explain the concepts of coping versus succumbing to a disability.
31. Define the roles of the various members of the rehabilitation and/or ARC team.
32. Provide emotional support to the patient and family.
33. Receive patients and visitors.
34. Observe and report patient data.

35. Record patient data using SOAP notes format or facility format.
36. Relate facts, ideas, and feelings by communicating with team members: patient, staff, and family.
37. Obtain and clarify data by listening to the patient.
38. Write reports concerning patient care and conditions, census, accidents, and incidents.
39. Assist with patient teaching as prescribed.
40. Reinforce instructions from other health professionals to patient and family.
41. Stock and store equipment and supplies.
42. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
43. Use information technology applications as appropriate to health care specialties.
44. Integrate literacy and numeracy concepts and processes across all curricular units.
45. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Sports Medicine I
Valid Course Code:
170303

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will *(Tasks may vary depending on the place of internship):*

1. Demonstrate professional dress and appearance in the workplace.
2. Discusses the basic-traits that make up professionalism in sports medicine.
3. Demonstrates appropriate written and oral communication skills in the workplace.
4. Recognizes ethical issues and their implications related to sports medicine and works to prevent such issues.
5. Apply the concept of confidentiality to patient information and records.
6. Measure and record vital signs, including height and weight.
7. Compare/contrast normal values for vital signs.
8. Apply the principle of rest, ice, compression, and elevation (R.I.C.E).
9. Demonstrate proper fitting and gait of crutches.
10. Demonstrate proper splinting applications.
11. Demonstrate proper spinal immobilization techniques.
12. Discuss general strength conditioning principles.
13. Implements proper flexibility in fitness/athletic performance.
14. Implements general conditioning principles to improve cardiovascular fitness and strength.
15. Identify methods to increase flexibility.
16. Assess and care for heat cramps, heat exhaustion, and heat stroke using proper skills.
17. Uses resources for severe weather information and promotes safe environment.
18. Encourages proper technique to the physiological process of weather acclimatization.
19. Recognizes signs and symptoms of concussions and provides basic care until advanced personnel arrive.
20. Recognizes signs/symptoms of strains and sprains and provides basic care until advanced personnel arrive.
21. Recognizes signs and symptoms of possible fractures and provides basic care until advanced personnel arrive.
22. Categorize and recognizes the most common types of skin injuries.
23. Recognizes signs and symptoms of contusions.
24. Assess the inflammatory scheme and provides basic care until advanced personnel arrive.
25. Recognizes blood-borne pathogens and practices standard precautions.
26. Examine and practice an exposure control plan.
27. Formulate or follows and emergency action plan.
28. Identify the importance of a pre-participation examination and assess' the exam.
29. Recognize and document mechanism of injury.
30. Recognize and document time of injury using the twenty four hour clock.
31. Demonstrate palpation of various joint structures.
32. Demonstrate range of motion testing of various joints applying knowledge of injury.
33. Demonstrate strength testing of various muscle groups.
34. Demonstrate reflex testing.

35. Demonstrate functional testing of various body parts.
36. Demonstrate special tests for orthopedic assessment.
37. Demonstrate various taping methods for the elbow, wrist, and thumb.
38. Demonstrate various taping methods for the knee, ankle, and foot.
39. Recognizes and implements criteria for return to play.
40. Discusses and encourages the basic components of nutrition.
41. Implements common methods for analyzing body composition.
42. Encourages the importance of fluid replacement and hydration and demonstrates ability to practice methods.
43. Interpret and encourages the components of pre and post event meal and explain the value of each.
44. Discuss disordered eating conditions associated with athletes.
45. Recognize and discuss the effects and dangers of nutritional supplements.
46. Demonstrate proper techniques of applying a walking boot, knee brace, and shoulder sling, etc.
47. Use proper terminology while describing major sports injuries.
48. Implements the safe practice of therapeutic modalities.
49. Discuss the physiological effects, indications, contraindications and application of electrotherapy.
50. Discuss the physiological effects, indications, contraindications and application of mechanical therapy.
51. Differentiate between therapeutic exercise and conditioning exercise.
52. Implement various range of motion exercises.
53. Uses palpation of various joint structures until supervised medical care arrives.
54. Demonstrate strength testing of various muscle groups.
55. Demonstrate functional testing of various body parts.
56. Demonstrate special tests for orthopedic assessment.
57. Explain and implement procedures for maintaining protective equipment for sports
58. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
59. Use information technology applications as appropriate to health care specialties.
60. Integrate literacy and numeracy concepts and processes across all curricular units.
61. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Principles of Health Science
Valid Course Code:
170111

Course Description: Principles of Health Science is an orientation and foundation for occupations and functions in any health care profession. The course includes broad healthcare core standards that specify the knowledge and skills needed by the vast majority of healthcare workers. The course focuses on exploring health career options, history of health care, ethical and legal responsibilities, leadership development, safety concepts, health care systems and processes and basic health care industry skills. This introductory course may be a prerequisite for additional courses in the Health Science program.

Content/Process

Students will:

1. Analyze and interpret medical milestones, conditions, trends and issues to develop historical perspectives about the health care industry.
2. Explore the organizational structure of various health care facilities.
3. Observe, analyze and interpret human behaviors, social groupings and institutions to better understand people and the relationship among individuals and among groups.
4. Identify how key systems affect services performed and the quality of health care.
5. Describe ethical practices with respect to cultural, social and ethnic differences within the health care environment.
6. Recognize legal responsibilities, limitations and the implications of actions within the health care industry and manage professional behavior accordingly.
7. Evaluate services, products, and resources available in the community and state in order to make effective consumer decisions.
8. Follow health and safety policies and procedures to prevent injury or illness through safe work practices.
9. Understand the roles and responsibilities of the health care team and interact effectively with all team members.
10. Explore Maslows' Hierarchy of Needs.
11. Recognize an acceptable Code of Conduct for a health care worker.
12. Use strategies for choosing and preparing for a career in the health care industry.
13. Apply methods of giving and obtaining information to communicate effectively, both orally and in writing.
14. Demonstrate skills and work habits that lead to success in future schooling and work.
15. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
16. Use information technology applications as appropriate to health care specialties.
17. Integrate literacy and numeracy concepts and processes across all curricular units demonstrate key employability skills (e.g. interviewing, writing resumes, completing applications) needed for further education or employment.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Safety and First Aid
Valid Course Code:
170142

Course Description: Safety and First Aid is a course designed to teach current strategies relative to designated emergency situations as put forth by the National Safety Council or American Red Cross. The National Safety Council or American Red Cross standardized course qualifies a student for certification in safety and first aid.

Content/Process

Students will:

1. Demonstrate use of standard precautions.
2. Review fire safety.
3. Investigate legal and ethical issues related to emergency procedures.
4. Demonstrate employability and social skills relevant to careers.
5. Apply mathematics, science and communication skills within the emergency procedure course/health care setting.
6. Use technology to collect, organize and communicate information and ideas.
7. Evaluate services and resources available in the community.
8. Research and debate issues related to organ donations.
9. Compare and contrast emergency procedures used in the media to reality.
10. Utilize activities of the HOSA-Future Health Professionals as an integral component of course content and leadership development (suggestion: have students participate in CPR/First Aid and Public Health Emergency Preparedness competitive events).
11. Participate in a medical disaster dramatization (optional).
12. Incorporate HOSA-Future Health Professionals guidelines for CERT competitive events if time permits (optional).
13. Demonstrate tasks as required by the CPR for Health Care Professionals standardized course (American Heart Association or American Red Cross).
14. Demonstrate first aid techniques for certification including tasks required by the standardized course of the American Heart, National Safety Council or American Red Cross.
15. Demonstrate first aid techniques for certification including tasks required by the standardized course of the American Heart, National Safety Council or American Red Cross

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Special Topics in Allied Health
Valid Course Code:
170591

Course Description: Special Topics in Allied Health is an expanded course offering the study of current world health-related issues. Topics may vary at the discretion of the instructor. (.5 to 1 credit)

Content/Process

Students will:

1. Adhere to all regulations/guidelines outlined by HIPAA
2. Tasks will vary based on the topic covered
3. Research current health-related issues
4. Investigate employment opportunities and responsibilities of health care workers
5. Develop work habits necessary for individual maturity and job competence
6. Create a plan for productive time management
7. Interpret instructional manuals
8. Discuss articles from professional journals
9. Formulate a plan for post-secondary education
10. Prepare a written and oral culminating report based on experiences in health science program
11. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development
12. Use information technology applications as appropriate to health care specialties
13. Integrate literacy and numeracy concepts and processes across all curricular units
14. Demonstrate employability and social skills relevant to health careers

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Medical Office Procedures
Valid Course Code:
170974

Course Description: Provides a working knowledge of the duties required in a medical office. Includes professional and career responsibilities, interpersonal communication, administrative responsibilities, and financial administration.

Content/Process

Students will:

1. List a variety of career possibilities and areas of specialization in medical office careers.
2. Identify and demonstrate good work habits.
3. Apply personal communication skills and techniques.
4. Define and demonstrate appropriate business appearance and image.
5. Prepare a letter of application and resume.
6. Demonstrate and describe proper telephone techniques.
7. Process incoming and outgoing mail.
8. Schedule patient office appointments, hospital admissions, outpatient surgery, and ancillary testing.
9. Assist patients in completing medical forms.
10. Identify the various health care insurance plans, their coverage, and requirements for billing.
11. Complete forms to release patient information.
12. Maintain office equipment and supplies.
13. Identify medicolegal and ethical responsibilities.
14. Discuss the role of cultural, social and ethnic diversity affecting healthcare.
15. Demonstrate an understanding of office safety and ergonomics.
16. Prepare professional reports.
17. Make travel arrangements.
18. Perform bookkeeping tasks: checking writing, bank statement reconciliation, billing and collection procedures.
19. File records accurately.
20. Discuss principles of using electronic medical records.
21. Comply with HIPAA rules and regulations.
22. Identify community resources.
23. Identify safety rules applicable to this course and demonstrate appropriate observance of said rules, including but not limited to, trip hazards, electrical cords and outlets, evacuation procedures for emergency situations (including fire, tornado, bomb threat, earthquake, etc.), lockdown procedures for emergency situations, location and contents of first aid kit, MSDS sheets, etc.
24. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
25. Use information technology applications as appropriate to health care specialties.
26. Integrate literacy and numeracy concepts and processes across all curricular units.
27. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Medical Administrative Assistant
Valid Course Code:
170556

Course Description: The internship provides supervised work site experience related to the students education objectives in the area of medical administrative assistant. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

Content/Process

Students will:

1. Gain career awareness and the opportunity to test career major choice(s).
2. Name credentialing agencies for careers related to career major.
3. Research the history and rationale of career major specialty.
4. Identify the different specialties in the career major.
5. Demonstrate knowledge of applicable laws, statutes, or regulations in the career area.
6. Research common diseases or problems associated with career major.
7. Receive work experience related to the medical administrative assistant career prior to graduation.
8. Integrate classroom studies with work experience.
9. Receive exposure to facilities and equipment unavailable in a classroom setting.
10. Increase employability potential after graduation.
11. Demonstrate performance skills related to the Medical Administrative Assistant.
12. Demonstrate knowledge of first aid and CPR as they relate to the area.
13. Demonstrate professional etiquette and responsibilities.
14. Demonstrate effective communication skills.
15. Practice team building concepts.
16. Demonstrate effective use of time management skills.
17. Incorporate use of related medical terminology and theory related to the Medical Administrative Assistant career.
18. Demonstrate correct observation skills.
19. Perform procedures to prevent disease transmission utilizing OSHA, CDC regulations and universal precautions.
20. Recognize and provide environmental, personal, and patient safety.
21. Follow safety and emergency procedures.
22. Report unsafe conditions.
23. Demonstrate proper use of the telephone, intercom system, copying, and faxing machines.
24. Demonstrate typing, medical transcription, and computer literacy skills.
25. Maintain appointment book according to protocol.
26. Verify patient appointments.
27. Call patients to reschedule appointments.
28. Maintain system for reminding patients of routine re-examination.
29. Make appointment for patient with another physician, e.g. consultation.
30. Complete and maintain patient medical treatment records.
31. File records accurately.
32. Use correct technique for correcting written errors.
33. Complete HIC Medicare/Medicaid/private carrier insurance forms.
34. Retrieve information to use CPT and ICD code books and record on proper forms.
35. Record and keep record of all phone conversations.

36. Collect charts for patients to be seen each day.
37. Explain physician's unavailability to patients in waiting room.
38. Answer questions concerning physician's hours/qualifications/fees.
39. Handle emergency calls.
40. Keep waiting room and physician's office/reception area tidy.
41. Make current periodicals available to patients.
42. Order office supplies.
43. Replenish physician's desk supplies.
44. Assist with the preparing of patient ledger for new patients.
45. Assist with the preparation of charge slips for services rendered.
46. Assist in the posting of patient charges.
47. Assist in posting payment received to patient ledger card.
48. Assist with collecting payment at time of visit.
49. Write receipts.
50. Route patients, on arrival, for scheduled lab work before seeing the physician.
51. Escort patient to appropriate examination/treatment area.
52. Assist the handicapped patient.
53. Comply with HIPAA rules and regulations.
54. Demonstrate appropriate dress and hygiene in the workplace.
55. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
56. Use information technology applications as appropriate to health care specialties.
57. Integrate literacy and numeracy concepts and processes across all curricular units.
58. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Allied Health Occupational Skill Standards
- National Health Care Skill Standards
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Project Lead the Way (PLTW) Biomedical Sciences Pathway

Access to curriculum for these 4 courses and certifications require a District/School STEM contract with PLTW. These pages will show course descriptions and valid course codes.
For more information, contact PLTW National (www.pltw.org) or the Biomedical Sciences State Lead in the Office of Career and Technical Education.

Course Name:	**Principles of Biomedical Sciences**
Course Description:	Description: Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person's life. Key biological concepts including: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease are embedded in the curriculum. Engineering principles including: the design process, feedback loops, fluid dynamics, and the relationship of structure to function are incorporated in the curriculum where appropriate. The course is designed to provide an overview of all the courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses
Valid Course Code:	170701

Course Name:	**Human Body Systems**
Course Description:	Students will engage in the study of the processes, structures, and interactions of the human body systems. Important concepts in the course include: communication, transport of substances, locomotion, metabolic processes, defense, and protection. The central theme is how the body systems work together to maintain homeostasis and good health. The systems will be studied as "parts of a whole," working together to keep the amazing human machine functioning at an optimal level. Students will design experiments, investigate the structures and functions of body systems, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Students will work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.
Valid Course Code:	170702

Course Name:	**Medical Interventions**
Course Description:	Student projects will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. Students will study the design and development of various medical interventions including vascular stents, cochlear implants, and prosthetic limbs. They will review the history of organ transplants and gene therapy, and read current scientific literature to be aware of cutting edge developments. Using 3-D imaging software and current scientific research students will design and build a model of a therapeutic protein.
Valid Course Code:	170703

Course Name:	**Biomedical Innovations**
Course Description:	This capstone course gives student teams the opportunity to work with a mentor, identify a science research topic, conduct research, write a scientific paper, and defend team conclusions and recommendations to a panel of outside reviewers. Each team will have one or more mentors from the scientific and/or medical community guiding their scientific research. This course may be combined with the capstone course from the pre-engineering pathway, allowing students from both pathways to work together to engineer a product that could impact healthcare.
Valid Course Code:	170704

* Internship: Biomedical Sciences—General
Valid Course Code:
170705

Course Description: In this capstone internship course option for PLTW Biomedical Sciences Pathway, students apply their knowledge and skills during supervised real-world work-related experiences related to the biomedical sciences. Students design and implement an independent project and may work with a mentor or advisor from a university, hospital, physician's office, or industry. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community. Students participating in the internship do not receive compensation.

Content/Process

Students will:

1. Recognize that breaking a large project into many smaller tasks allows for modifications to be made as necessary and serves as a means to monitor progress toward completion of the project.
2. Use appropriate Internet search techniques to gather information about a topic from appropriate websites.
3. Develop a proposal for an independent project.
4. Establish a protocol, timeline, and a means to measure progress toward completion of the project.
5. Complete an independent project, including making a product, writing a report, compiling a portfolio, and delivering an oral presentation.
6. Develop professional relationships with mentors and other experts in the field of biomedical sciences
7. Suggestions for study topics: basic scientific research, environmental science research, public health and non-profit organization events including health awareness, food science, job-shadowing with case studies
8. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
9. Use information technology applications as appropriate to health care specialties.
10. Integrate literacy and numeracy concepts and processes across all curricular units
11. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

* Internship: Biomedical Sciences--EKG Technician
Valid Course Code
170706

Course Description: This course must be completed in conjunction with the PLTW Biomedical Innovations (BI) course during the student's senior year. This internship is completed as an independent study course in addition to the BI requirements and in place of Optional Problem 8. Material covered will include: Anatomy and Electrophysiology of the Heart, The Electrocardiogram; Heart Rate; Regularity; P Waves; QRS Complexes; PR Intervals; Sinus Node Dysrhythmias; Atrial Dysrhythmias; Junctional Dysrhythmias; Ventricular Dysrhythmias; AV Heart Blocks; Electrical Axis; Hypertrophy, Bundle Branch Block, and Pre-excitation; Myocardial Ischemia and Infarction; and Other Cardiac Conditions and the ECG . Students will also be required to document and complete 10 live EKG's under the supervision of the teacher or a health professional. Upon completion of this internship, students are eligible to take the EKG Technician Certification examination in order to obtain national certification. This internship requires supervised on-the-job work experience related to the students' education objectives in the area of EKG Technician. Students participating in the internship do not receive compensation.

Content/Process

Students will:

1. Calculate a patient's heart rate from the EKG tracing (e.g., 6-second method, R to R, sequencing).
2. Identify artifacts from the tracing (e.g., wandering baseline, somatic, electrical).
3. Resolve artifacts from the tracing (e.g., wandering baseline, somatic, electrical).
4. Record an EKG lead on a patient (3-lead, 5-lead, 12-lead).
5. Verify the leads recorded on an EKG.
6. Upload a completed EKG to a patient's electronic medical record.
7. Mount a completed EKG for a patient's chart.
8. Measure a patient's heart rhythm from the EKG tracing.
9. Inspect the waveforms of a cardiac cycle for symmetry, direction, and amplitude (e.g., P waves, QRS Complexes, ST segments, T waves).
10. Measure a patient's heart conduction from the EKG tracing (e.g., PR-interval (PRI), QRS duration, QT-interval).
11. Identify the major classifications of arrhythmias from the EKG tracing (e.g., sinus, atrial, ventricular, and junctional).
12. Identify the major variances to waveforms related to ischemia, injury, or infarction.
13. Respond to potentially life threatening arrhythmias.
14. Verify EKG machine paper speed (e.g., 25mm, 50mm).
15. Verify EKG machine sensitivity (e.g., h, 1, 2).
16. Maintain EKG equipment and the work environment.
17. Recognized pacemaker spikes on an EKG trace.
18. Prepare the patient for EKG monitoring, Holter monitoring, Stress testing, and telemetry monitoring (e.g., patient history, cardiac medications, patient positioning).
19. Apply electrodes on patients for EKG, Holter monitoring, Stress testing, Telemetry, pediatric patients, and patients with special considerations (e.g., right sided heart, posterior chest, amputations).
20. Respond to signs and symptoms of cardiopulmonary compromise.
21. Adhere to HIPAA regulations regarding Protected Health Information (PHI).
22. Monitor patient condition during stress testing.
23. Respond to complications during stress testing.
24. Verify patient understanding of Holter monitor procedures.
25. Obtain patient vital signs (e.g., heart rate, respirations, temperature, blood pressure, pulse ox)
26. On an illustration, identify the structures of the heart and describe their function.

27. On an illustration, trace the flow of blood through the pulmonary and systemic circulatory systems.
28. Describe the electrophysiology of the heart and relate the events of cardiac conduction to the electrocardiogram.
29. Outline the process of electrocardiography.
30. Explain the purpose of measuring the standard 12 lead electrocardiogram.
31. List standards of calibrating and providing general maintenance of an electrocardiograph.
32. Explain the method and rational for measuring the EKG/ECG in the exercising patient including safety hazards.
33. Evaluate the electrocardiogram for cardiac rate, rhythm, and the presence of absence of ectopic beats.
34. Recognize PAC's, atrial fibrillation, atrial flutter, PVC's, ventricular tachycardia, and ventricular fibrillation.
35. Recognize and describe the actions of various common cardiovascular agents.
36. Discuss arrhythmias and identify how to interpret those of the sinoatrial mode, sinus tachycardia, sinus arrest, and sinus bradycardia.
37. Discuss first-degree and second-degree AV block and explain how they can be identified on the ECG/EKG.
38. Explain the difference between right and left bundle branch blocks and briefly define how each can be identified on an ECG/EKG.
39. Discuss the role of the ECG/EKG technician as it relates to patient care and recording of the ECG.
40. Identify and describe the various types of equipment and supplies used in monitoring and recording electrocardiograms.
41. Perform basic lead placement on the adult, pediatric, and neonatal patient.
42. Prepare and position patient for testing.
43. Attach electrodes to the patient's chest, arms, and legs, connect electrodes to leads from the EKG machine, and operate the machine to obtain a reading.
44. Explain testing procedures to patient to obtain cooperation and reduce anxiety.
45. Monitor patients' blood pressure and heart rate using electrocardiogram (EKG) equipment during diagnostic and therapeutic procedures to notify the physician if something appears wrong.
46. Monitor patients' comfort and safety during tests, alerting physician to abnormalities or changes in patient responses.
47. Observe gauges, recorder, and video screens of data analysis system during imaging of cardiovascular system.
48. Adjust equipment and controls according to physician's orders or established protocol
49. Check, test, and maintain cardiology equipment.
50. Utilize activities of HOSA-Future Health Professionals as an integral component of course content, skills application, and leadership development.
51. Use information technology applications as appropriate to health care specialties.
52. Integrate literacy and numeracy concepts and processes across all curricular units.
53. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)

Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

*Internship: Biomedical Sciences--Pharmacy Technician
Valid Course Code:
170707

Course Description: This course must be completed in conjunction with the PLTW Biomedical Innovations (BI) course during the student's senior year. This internship is completed as an independent study course in addition to the BI requirements and in place of Optional Problem 8. Material covered will include: Orientation, Federal Law, Medication Review, Aseptic Techniques, Calculations, and Pharmacy Operations. It is suggested that students complete and document at least 5-10 hours of observation and/ or interview with a pharmacist or pharmacy technician. Upon completion of this internship, students are eligible to take the Pharmacy Technician Certification Board examination in order to obtain national certification. This internship requires supervised on-the-job work experience related to the students' education objectives in the area of Pharmacy Technician. Students participating in the internship do not receive compensation.

Content/Process

Students will:

1. Understand, discuss and define basic pharmacy terms and definitions.
2. Discuss the Pharmacy Technician Certification Board, its founding members and purpose.
3. Understand the PTCB certification examination structure, time allowed for exam, and broad topic content are reviewed.
4. Detail the requirements and process needed to maintain certification.
5. Understand Federal Laws that affects the Pharmacy Industry.
6. Discuss different laws and legislation that affect the Pharmacy Industry (when they were enacted and their importance).
7. Discuss the importance of the Controlled Substance Act of 1970.
8. Outline filing procedures, maintaining records according to State and Federal Laws, and drug substitution requirements.
9. Illustrate how a Doctor's DEA Number is determined and it's purpose.
10. Discuss storage requirements for Schedule II Drugs.
11. Define the four phases of Investigational Drugs.
12. Define Pharmacology (the varied types of drugs, prescription types, medication dosage forms, and medical devices are discussed).
13. List drug interactions on the human body's major systems.
14. Review the different types of medication dosages (i.e., tablets, caplets, liquids, creams, emulsions, etc.).
15. Describe the different types of administration devices for certain medications and dosages.
16. Review drugs on the Central Nervous System (to include drug interactions, mechanism of action and manufacturer named drugs). .
17. Review drugs which effect the Peripheral Nervous System (to include drug interactions, mechanism of action and manufacturer named drugs).
18. Review of drugs classified as hormones (to include drug interactions, mechanism of action and manufacturer named drugs).
19. Review of drugs that effect the Cardiovascular System (to include drug interactions, mechanism of action and manufacturer named drugs)
20. Review of drugs which affect the Renal System (to include drug interactions, mechanism of action and manufacturer named drugs).
21. Review of drugs classified as Anti-Infectant Drugs (to include drugs interactions, mechanism of action and manufacturer named drugs).
22. Review of drugs classified as Chemotherapy drugs (to include drug interactions, mechanism of action and manufacturer named drugs).
23. Review of blood and blood formation drugs is done (to include drug interactions, mechanism of action and manufacturer named drugs).

24. Review of Vitamins (to include drug interactions, mechanism of action and manufacturer named drugs).
25. Practice and demonstrate aseptic techniques.
26. Demonstrate the proper use of various types of syringes.
27. Define the uses of parenteral routes.
28. Identify the four most widely used parenteral routes.
29. Review of sterile compounding procedures.
30. Review the uses of various solutions used in Pharmacy (irrigation solutions, parenteral solutions, and TPNs).
31. Examine the safe handling of Antineoplastic agents used in the treatment of cancer is provided.
32. List the steps of a Parenteral Admixture Order.
33. Calculate dosages through the aspects of Pharmacy mathematics.
34. Convert units of measurement for the Metric, Avirdupois, and Apothecary systems.
35. Interpret abbreviations and Roman Numerals used in prescriptions.
36. Practice the basics of fractions, decimals and percent as used in Pharmacology.
37. Convert Fahrenheit – Centigrade temperatures.
38. Utilize ratio proportion relationships for chemical mixtures used in pharmacy.
39. Calculate the amount of drug product to dispense, or the number of days' supply from a dosage regimen.
40. Determine the flow rate of an IV solution.
41. Calculate powder volume.
42. Review of various pricing methods used in retail pharmacy.
43. Manage inventory controls of the Pharmacy business with an overview of insurance claims and "Third Party" reimbursement.
44. Maintain an accurate patient profile.
45. Detail what should be collected for a proper patient profile.
46. Define key terms used in inventory management.
47. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
48. Use information technology applications as appropriate to health care specialties.
49. Integrate literacy and numeracy concepts and processes across all curricular units
50. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Essentials of Sports Medicine
Valid Course Code:
170301

Course Description: An instructional program that prepares individuals to perform routine sports medicine related services for the physically active, under the training and supervision of an approved licensed athletic trainer. The purpose of this program is to give individuals knowledge and skills to prevent, recognize, and provide basic care for injuries and sudden illness.

Content/Process

Students will:

1. Understand anatomy and physiology
2. Define and explain the medical terms related to sports medicine.
3. Define common prefixes, suffixes and word roots relating to body structures and functions.
4. Understand structure and function of the musculoskeletal system
5. Explain the mechanism of muscle contraction.
6. Categorize the structures of the body into the organization system.
7. Summarize functions of the skeletal system.
8. Identify the bones of the axial and appendicular skeleton and their gross anatomical landmarks.
9. Distinguish among three types of cartilage.
10. Differentiate among the various types of joints.
11. Compare the characteristics of muscles.
12. Understand structure of related body systems
13. Identify role and structure of the cardiovascular system.
14. Identify the organization of the nervous system.
15. Identify role and structure of the respiratory system
16. Explore the fundamental aspects of sports medicine team
17. Identify members of a sports medicine team
18. Explore various medical specialties in relation to the field of sports medicine
19. Differentiate among the roles and responsibilities of the athletic trainer and team physician
20. Compare and identify professional associations within the field of sports medicine
21. Explain the function of allied health professionals in sports medicine
22. Explore educational requirements of different sports medicine professionals
23. Research educational requirements of various sports medicine professionals
24. Differentiate between an athletic trainer and a personal trainer
25. Explain certification requirements for various sports medicine professionals
26. Compare and contrast between certification and licensure
27. Identify different career opportunities for sports medicine professionals
28. Distinguish between traditional and nontraditional employment opportunities for athletic trainers
29. Explore sports medicine career options for allied health professionals
30. Explore sports medicine opportunities for physicians
31. Research career opportunities for strength and conditioning specialists in sports medicine
32. Understand licensure requirements of medical professionals
33. Explain the licensure requirements for athletic trainers in the Commonwealth of Kentucky.
34. Compare and contrast different state licensure requirements for athletic trainers
35. Explore licensure requirements for other sports medicine professionals
36. Explore ethical, legal, and professional responsibilities
37. Recognize and implement professionalism
38. Discuss different aspects of positive character
39. Demonstrate professional dress and appearance in the workplace

40. Describe the basic-traits that make up professionalism in sports medicine
41. Demonstrate appropriate written and oral communication skills in the workplace
42. Examine ethical behavior in healthcare
43. Practice responsibility within the ethical framework of the sports medicine profession
44. Identify code of ethics for various sports medicine professionals
45. Differentiate between ethical and legal issues impacting sports medicine
46. Compare personal and professional ethics
47. Recognize ethical issues and their implications related to sports medicine
48. Demonstrate legal responsibilities in healthcare
49. Identify the Health Insurance Portability and Accountability Act (HIPAA)
50. Identify the Family Education-Rights and Privacy Act (FERPA)
51. Compare and contrast FERPA and HIPAA
52. Comprehend legal terminology associated with the medical profession
53. Apply the concept of confidentiality to patient information and records
54. Discuss common methods of payment for healthcare
55. Explain patients' bill of rights and advance directives
56. Recognize and implement acute care skills
57. Assessment of vital signs
58. Measure height and weight
59. Measure heart rate and blood pressure
60. Measure visual acuity
61. Measure body temperature
62. Measure respiratory rate
63. Demonstrate an understanding of normal values for vital signs
64. Demonstrate management of acute injuries
65. Apply the principle of rest, ice, compression, and elevation (R.I.C.E}
66. Demonstrate proper fitting and gait of crutches
67. Demonstrate proper splinting applications
68. Demonstrate proper spinal immobilization techniques
69. Investigate the principles of exercise programs
70. Explain the principles of physical conditioning
71. Discuss general strength conditioning principles
72. Examine different cardiovascular training methods
73. Compare and contrast aerobic and anaerobic training
74. Examine the role strength training has on fitness/athletic performance
75. Examine the importance of flexibility in fitness/athletic performance
76. Understand physical fitness testing and training
77. Examine different types of tests used to quantify cardiovascular fitness
78. Describe the effects of exercise on the cardiovascular/respiratory systems
79. Compare and contrast different types of movements related to strength training
80. Apply general conditioning principles to improve cardiovascular fitness
81. Apply general conditioning principles to improve strength
82. Differentiate the different methods to increase flexibility
83. Explore how environmental factors affect performance
84. Differentiate thermal stresses
85. Compare and contrast heat cramps, heat exhaustion, and heat stroke
86. Discuss signs and symptoms of hypothermia and frostbite
87. Describe strategies to identify and prevent dehydration
88. Investigate severe weather situations
89. Discuss the ramifications of poor air quality
90. Discuss methods for determining safe participation during the threat of thunderstorms
91. Identify resources for severe weather information

92. Discuss prevention strategies for sun overexposure
93. Identify other physical factors related to performance
94. Describe the physiological response to exercise at altitude
95. Describe the physiological process of heat acclimatization
96. Describe the physiological process of cold acclimatization
97. Examine the effect of natural versus synthetic turf on performance
98. Explore mechanisms of injury
99. Identify common injuries
100. Differentiate signs and symptoms of concussions
101. Differentiate signs and symptoms of sprains
102. Differentiate signs and symptoms of strains
103. Differentiate signs and symptoms of fractures
104. Categorize the most common types of skin injuries
105. Differentiate signs and symptoms of contusions
106. Differentiate the etiology of soft tissue and bone injuries
107. Explore tissue response to injury
108. Describe the inflammatory scheme
109. Examine the steps in the healing process of bone and soft tissue
110. Compare and contrast acute and chronic response to injury
111. Demonstrate management strategies for injury
112. Describe the principles of primary and secondary assessment
113. Explain the principle of rest, ice, compression, and elevation (R.I.C.E)
114. Explore special considerations in athletics
115. Demonstrate safety practices for sports medicine
116. Explain blood borne pathogens
117. Demonstrate universal precautions and the use of personal protective equipment (PPE)
118. Describe effective practices to manage infectious disease transmission
119. Interpret the importance of material safety data sheets (MSDS)
120. Examine an exposure control plan
121. Formulate an emergency action plan
122. Understand rehabilitation and reconditioning
123. Understand therapeutic modalities
124. Identify the purpose of therapeutic modalities
125. Describe the physiological effects, indications, contraindications and application of cryotherapy
126. Describe the physiological effects, indications, contraindications and application of thermotherapy.
127. Identify assessment techniques of athletic injuries
128. Perform subjective assessment
129. Perform an accurate medical history and subjective assessment
130. Differentiate between methods used to document injuries (i.e. HOPS [History, Observation Palpation, Range of Motion and Special Tests], SOAP [Subjective, Objective, Assessment and Plan])
131. Describe a pain rating scale
132. Identify the importance of a pre-participation examination
133. Document mechanism of injury
134. Document time of injury using the twenty four hour clock
135. Explore objective assessment techniques
136. Demonstrate palpation of various joint structures
137. Demonstrate range of motion testing of various joints
138. Demonstrate strength testing of various muscle groups

139. Demonstrate reflex testing
140. Demonstrate functional testing of various body parts
141. Demonstrate special tests for orthopedic assessment
142. Demonstrate concussion assessment
143. Investigate diagnostic testing
144. Compare and contrast the differences between MRI (Magnetic Resonance Imaging}, x-ray, and CT (Computerized Typography)
145. Compare and contrast therapeutic and diagnostic ultrasound
146. Discuss the use of bone scan in injury diagnosis
147. Discuss the use of EMG (Electromyography) in injury diagnosis
148. Prophylactic taping and bracing
149. Demonstrate lower extremity taping
150. Demonstrate various taping methods for the foot
151. Demonstrate various taping methods for the knee
152. Demonstrate various taping methods for the ankle
153. Demonstrate upper extremity taping
154. Demonstrate various taping methods for the thumb
155. Demonstrate various taping methods for the wrist
156. Demonstrate various taping methods for the elbow
157. Utilize activities of Health Occupations Students of America (HOSA) as an integral Component of course content, skills application, and leadership development.
158. Use information technology applications as appropriate to health care specialties.
159. Integrate literacy and numeracy concepts and processes across all curricular units

Demonstrate employability and social skills relevant to health careers

Connections:

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Internship: Sports Medicine
Valid Course Code:
170303

Course Description: The internship provides supervised on-the-job work experience related to the students' education objectives. Students participating in the internship do not receive compensation.

Content/Process

Students will:

1. Demonstrate professional dress and appearance in the workplace.
2. Discusses the basic-traits that make up professionalism in sports medicine.
3. Demonstrates appropriate written and oral communication skills in the workplace.
4. Recognizes ethical issues and their implications related to sports medicine and works to prevent such issues.
5. Apply the concept of confidentiality to patient information and records.
6. Measure height and weight upon request.
7. Measure heart rate and blood pressure upon request.
8. Measure visual acuity upon request.
9. Measure body temperature upon request.
10. Measure respiratory rate upon request.
11. Compare/Contrast normal values for vital signs
12. Apply the principle of rest, ice, compression, and elevation (R.I.C.E}
13. Demonstrate proper fitting and gait of crutches upon request.
14. Demonstrate proper splinting applications upon request.
15. Demonstrate proper spinal immobilization techniques upon request.
16. Discuss general strength conditioning principles.
17. Implements proper flexibility in fitness/athletic performance.
18. Implements general conditioning principles to improve cardiovascular fitness and strength.
19. Identify methods to increase flexibility.
20. Assess and care for heat cramps, heat exhaustion, and heat stroke using proper skills.
21. Uses resources for severe weather information and promotes safe environment.
22. Encourages proper technique to the physiological process of weather acclimatization.
23. Recognizes signs and symptoms of concussions and provides basic care until advanced personnel arrive.
24. Recognizes signs and symptoms of sprains and provides basic care until advanced personnel arrive.
25. Recognizes signs and symptoms of strains and provides basic care until advanced personnel arrive.
26. Recognizes signs and symptoms of possible fractures and provides basic care until advanced personnel arrive.
27. Categorize and recognizes the most common types of skin injuries.
28. Recognizes signs and symptoms of contusions.
29. Assess the inflammatory scheme and provides basic care until advanced personnel arrive.
30. Recognizes blood borne pathogens and practices standard precautions.
31. Examine and practice an exposure control plan
32. Formulate or follows and emergency action plan.
33. Identify the importance of a pre-participation examination and assess' the exam upon request.

34. Recognize and document mechanism of injury upon request.
35. Recognize and document time of injury using the twenty four hour clock upon request.
36. Demonstrate palpation of various joint structures upon request.
37. Demonstrate range of motion testing of various joints upon request applying knowledge of injury.
38. Demonstrate strength testing of various muscle groups upon request.
39. Demonstrate reflex testing upon request.
40. Demonstrate functional testing of various body parts upon request.
41. Demonstrate special tests for orthopedic assessment upon request.
42. Demonstrate various taping methods for the thumb upon request.
43. Demonstrate various taping methods for the wrist upon request.
44. Demonstrate various taping methods for the elbow upon request.
45. Demonstrate various taping methods for the foot upon request.
46. Demonstrate various taping methods for the knee upon request.
47. Demonstrate various taping methods for the ankle upon request.
48. Recognizes and implements criteria for return to play.
49. Discusses and encourages the basic components of nutrition.
50. Implements common methods for analyzing body composition upon request.
51. Encourages the importance of fluid replacement and hydration and demonstrates ability to practice methods.
52. Interpret and encourages the components of pre and post event meal and explain the value of each
53. Discuss disordered eating conditions associated with athletes.
54. Recognize and discuss the effects and dangers of nutritional supplements.
55. Demonstrate proper techniques of applying a walking boot, knee brace, and shoulder sling, etc. upon request.
56. Use proper terminology while describing major sports injuries.
57. Implements the safe practice of therapeutic modalities upon request.
58. Discuss the physiological effects, indications, contraindications and application of electrotherapy.
59. Discuss the physiological effects, indications, contraindications and application of mechanical therapy.
60. Differentiate between therapeutic exercise and conditioning exercise upon request.
61. Implement various range of motion exercises upon request.
62. Uses palpation of various joint structures upon request until supervised medical care arrives.
63. Demonstrate strength testing of various muscle groups
64. Demonstrate functional testing of various body parts upon request.
65. Demonstrate special tests for orthopedic assessment upon request.
66. Explain and implement procedures for maintaining protective equipment for sports.
67. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
68. Use information technology applications as appropriate to health care specialties.
69. Integrate literacy and numeracy concepts and processes across all curricular units
70. Demonstrate employability and social skills relevant to health careers.

Connections

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Applied Sports Medicine
Valid Course Code:
170302

Course Description: An instructional program that emphasizes the prevention, assessment and care for injuries and illness to the physically active including the components of exercise science, anatomy, and principles of safety under the supervision of an approved licensed athletic trainer. Subject matter also includes legal issues, acute care skills, nutrition, human performance, taping and wrapping, therapeutic modalities, and application of sports medicine concepts.

Content/Process

Students will:

1. Understand anatomy and physiology
2. Define and explain sports medicine related medical terms
3. Spell and pronounce medical terms correctly
4. Identify basic medical abbreviations
5. Use proper terminology while describing athletic injuries
6. Understand structure and function of the musculoskeletal system
7. Differentiate the four basic tissue types in the body
8. Identify members of a sports medicine team
9. Recognize and implement acute care skills
10. Complete basic first aid and cpr training
11. Apply the concept of universal precautions to the practice of first aid and CPR
12. Explain the importance of CPR and how to manage an obstructed airway
13. Demonstrate the proper technique for performing CPR/AED on an adult, child, and infant from an accredited agency
14. Complete a first aid course from an accredited agency
15. Assessment vital signs
16. Measure height and weight
17. Measure heart rate and blood pressure
18. Measure visual acuity
19. Measure body temperature
20. Measure respiratory rate
21. Demonstrate management of acute injuries
22. Demonstrate proper techniques of applying a walking boot, knee brace, shoulder sling, etc.
23. Investigate the principles of an exercise program
24. Understand nutrition and weight management
25. Classify the basic components of nutrition
26. Compare and contrast the most common methods for analyzing body composition
27. Examine the importance of fluid replacement and hydration
28. Interpret the components of pre and post event meal plans and explain the value of each
29. Discuss disordered eating conditions associated with athletes
30. Recognize the effects and dangers of nutritional supplements
31. Explore mechanisms of injury
32. Demonstrate management strategies for injury
33. Explore pharmacological intervention in injury management
34. Explore the role of rehabilitation on injury healing
35. Discuss dietary strategies to enhance healing
36. Identify criteria for return to play
37. Explore special considerations in athletics
38. Research metabolic and related disorders
39. Examine the condition of hypoglycemia

40. Compare and contrast type I versus type II diabetes
41. Describe the consequences of sickle-cell anemia
42. Explore hypertrophic cardiomyopathy
43. Explain the physiology of asthma and its effect on performance
44. Identify causes of iron deficiency anemia
45. Investigate special needs in human performance
46. Determine how the following genetic conditions affect athletic performance: downs syndrome, cerebral palsy, etc.
47. Explore special considerations for participation of amputee athletes
48. Explore special considerations for participation of visually impaired athletes
49. Explain the management of seizure disorders, including return to play criteria
50. Understand rehabilitation and reconditioning
51. Understand therapeutic modalities
52. Identify the purpose of therapeutic modalities
53. Describe the physiological effects, indications, contraindications and application of electrotherapy
54. Describe the physiological effects, indications, contraindications and application of mechanical therapy
55. Demonstrate therapeutic exercises
56. Discuss the components and goals of a rehabilitation program
57. Identify the general guidelines of a rehabilitation program
58. Differentiate between therapeutic exercise and conditioning exercise
59. Describe various range of motion exercises
60. Recognize various equipment and tools used in therapeutic exercise
61. Explore psychological response to injuries
62. Compare the five psychological phases an athlete experiences following an injury
63. Examine different relaxation techniques and how they can aid in injury recovery
64. Describe the importance of goal setting in the rehabilitation process
65. Identify assessment and evaluation techniques of athletic injuries
66. Perform subjective assessment
67. Perform an accurate medical history and subjective assessment
68. Differentiate between methods used to document injuries (i.e. HOPRS [History, Observation, Palpation, Range of motion and Special Tests)
69. Describe a pain rating scale
70. Identify the importance of a pre-participation examination
71. Document mechanism of injury
72. Document time of injury using the twenty four hour clock
73. Explore objective assessment techniques
74. Demonstrate palpation of various joint structures
75. Demonstrate range of motion testing of various joints
76. Demonstrate strength testing of various muscle groups
77. Demonstrate reflex testing
78. Demonstrate functional testing of various body parts
79. Demonstrate special tests for orthopedic assessment
80. Demonstrate concussion assessment.
81. Investigate diagnostic testing
82. Compare and contrast the differences between MRI (Magnetic Resonance Imaging), x-ray, and CT (Computerized Tomography)
83. Compare and contrast therapeutic and diagnostic ultrasound
84. Discuss the use of bone scan in injury diagnosis
85. Discuss the use of EMG (Electromyography) in injury diagnosis
86. Prophylactic taping and bracing

87. Describe the use of braces and other equipment
88. Explain procedures for maintaining protective equipment for sports
89. Explain the importance of a proper fitting mouth guard
90. Identify appropriate prophylactic braces for the knee and ankle
91. Identify various types of foot orthotics and their uses
92. Utilize activities of Health Occupations Students of America (HOSA) as an integral component of course content, skills application, and leadership development.
93. Use information technology applications as appropriate to health care specialties.
94. Integrate literacy and numeracy concepts and processes across all curricular units
95. Demonstrate employability and social skills relevant to health careers.

Connections:

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards

Principles of Veterinary Science
Valid Course Code:
170801

Course Description: Students will explore careers in veterinary medicine, demonstrate knowledge of safety issues in the veterinary field as well as developing core skills for handing large and small animals.

Content/Process

Students will:

1. Interpret the attendance, discipline and grading standards for the school.
2. Demonstrate knowledge of the school's layout, resources and evacuation procedures.
3. Demonstrate knowledge of the program standards, objectives, dress code and safety guidelines.
4. Identify the course grading and internship policies.
5. Demonstrate knowledge of OSHA and DEA regulations for work in a veterinary facility.
6. Describe the roles and responsibilities of different careers in veterinary medicine.
7. Understand the human-animal bond
8. Demonstrate professional appearance and language in the workplace.
9. Demonstrate appropriate use of electronic communication in the workplace.
10. Demonstrate knowledge of safety precautions with storing and handling hazardous materials found in the veterinary hospital.
11. Recognize common zoonotic hazards and how to safely handle animals with zoonotic diseases.
12. Describe isolation procedures and identify when isolation is appropriate.
13. Demonstrate knowledge of chemical hazards and how to safely handle common chemicals in the veterinary hospital.
14. Demonstrate knowledge of anatomical terms, physiology and disease processes of basic cell structure.
15. Demonstrate knowledge of anatomical terms, physiology and disease processes of basic tissue structure.
16. Demonstrate knowledge of anatomical terms, physiology and disease processes of the Integumentary System.
17. Demonstrate knowledge of common species terms.
18. Clean and disinfect a kennel or cage.
19. Remove an animal from an enclosure, weigh animal and record weight in medical record.
20. Walk a dog on a slip leash in a controlled manner.
21. Place a halter on a horse and lead it in a controlled manner.
22. Identify normal and abnormal animal behavior.
23. Take an animal's vital signs and record in medical record.
24. Brush a dog or cat using correct grooming tool, including removal of mats.
25. Groom a horse and pick out hooves.
26. Trim a dog's nails.
27. Trim a cat's nails.
28. Demonstrate proper use of clippers and clipper blades.
29. Maintain clippers and clipper blades.
30. Dip a patient.
31. Bathe a patient.
32. Express anal glands using the external method.
33. Clean normal ears.
34. Identify the parts of a medical record.
35. Create a medical record for a new patient and file it alphabetically.
36. Take a patient history and record it in a medical record.
37. Follow intake and discharge procedures for a patient, using release and discharge forms.

38. Answer the phone in a professional manner and make an appointment, determining an emergency and scheduling accurately.
39. Follow legal requirements for the transfer of a medical record.
40. Schedule an appointment using computer appointment book.
41. Bill a client for a procedure using veterinary software.
42. Organize and maintain inventory.
43. Prepare a rabies certificate following state regulations.
44. Prepare a health certificate following national regulations.
45. Describe common exam room procedures to a client.
46. Write a business letter.
47. Restrain a dog in sternal, lateral and ventrodorsal recumbency.
48. Restrain a cat in sternal, lateral and ventrodorsal recumbency.
49. Restrain a dog for jugular venipuncture.
50. Restrain a dog for cephalic venipuncture.
51. Restrain a dog for saphenous venipuncture.
52. Restrain a cat for jugular venipuncture.
53. Restrain a cat for cephalic venipuncture.
54. Restrain a cat for femoral venipuncture.
55. Place a commercial and a leash muzzle on a dog
56. Place a commercial muzzle on a cat.
57. Utilize a catch pole.
58. Apply an Elizabethan collar to an animal.

Connections:

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards
- NAVTA Approved Veterinary Assistant Certification: www.navta.net
- Hill's Pet Nutrition: www.hillsvet.com Veterinary Nutritional Advocate
- Merial- www.vetmedteam.com
- Idexx- www.idexxlearningcenter.com
- FEMA- http://training.fema.gov/is/

Veterinary Assistant Skills
Valid Course Code:
170802

Course Description: Students will build on previously mastered animal handling skills and develop specific skills for work in a veterinary hospital. Students will develop problem solving skills and demonstrate workplace applications of skills with the Veterinary Assistant Internship.

Content/Process

Students will:

1. Demonstrate knowledge of anatomical terms, physiology & disease processes of digestive system.
2. Demonstrate knowledge of anatomical terms, physiology and disease processes of the nervous system.
3. Demonstrate knowledge of anatomical terms, physiology and disease processes of the immune system.
4. Differentiate between prescription and over the counter pharmaceuticals.
5. Demonstrate knowledge of legal issues involving drugs in the workplace.
6. Recognize general types and groups of drugs.
7. Demonstrate knowledge of pharmaceutical terminology.
8. Interpret a prescription and fill it using proper labeling, terminology and calculations.
9. Hand pill a dog and a cat.
10. Set up for a fecal floatation
11. Set up for a fecal smear
12. Set up for a gross exam of feces.
13. Reconstitute vaccines and demonstrate knowledge of vaccine protocols.
14. Describe possible routes and methods of drug and vaccine administration.
15. Record basic physiological observations in a medical record.
16. Monitor and restrain patients for fluid therapy.
17. Apply and remove bandages to healthy animals.
18. Demonstrate knowledge of small animal nutritional requirements including dry matter basis calculations.
19. Prepare prescription diets and normal food for a patient.
20. Provide care and maintenance of nursing equipment.
21. Demonstrate knowledge of nosocomial infections and how to prevent them.
22. Recognize common CFA cat breeds.
23. Demonstrate knowledge of anatomical terms, physiology and disease processes of the renal system.
24. Demonstrate knowledge of anatomical terms, physiology and disease processes of the nervous system.
25. Demonstrate knowledge of anatomical terms, physiology and disease processes of the musculoskeletal system.
26. Demonstrate knowledge of anatomical terms, physiology and disease processes of the circulatory system.
27. Demonstrate knowledge of anatomical terms, physiology and disease processes of the respiratory system.
28. Identify processes and procedures of euthanasia.
29. Explain the equipment needed for a necropsy and proper disposal of a deceased animal.
30. Prepare for and clean up after an exam room appointment.
31. Sex a cat.
32. Approximate the age of a dog or cat from its dentition.
33. Approximate the age of a horse from its dentition.

34. Identify common ectoparasites
35. Recognize common AKC dog breeds
36. Prepare a blood smear and stain it.
37. Prepare a PCV.
38. Prepare a total protein.
39. Prepare a blood sample for a laboratory.
40. Set up supplies for a serum serology test.
41. Collect a midstream urine sample.
42. Determine physical properties of urine including color and clarity.
43. Use an in-house analyzer for blood analysis.
44. Explain how to handle rabies suspects and handle samples safely.
45. Demonstrate knowledge of safety procedures for work with radiation.
46. Demonstrate knowledge of the use of a radiology log.
47. Set up for a radiograph.
48. Assist with positioning of animal for a radiograph or ultrasound.
49. Identify directional terms used in veterinary radiology.
50. Demonstrate knowledge of automatic and manual film developing techniques.
51. Demonstrate knowledge of proper care for radiology equipment.
52. Label, file and store film and radiographs.
53. Maintain a surgery logbook.
54. Evaluate situations and apply aseptic technique.
55. Assist in the preanesthetic process.
56. Assist in presurgical preparation and induction.
57. Assist with the positioning of surgical patients.
58. Clip and prep a surgical site.
59. Provide post- operative care for a surgical patient.
60. Prepare and open sterile cloth wrapped item while maintaining asepsis.
61. Prepare and open sterile paper wrapped item while maintaining asepsis.
62. Clean surgical instruments.
63. Identify surgical instruments and prepare an instrument pack.
64. Prepare a drape pack, a paper pack, a gown pack.
65. Use a steam autoclave to sterilize packs.
66. Maintain a steam autoclave.
67. Demonstrate knowledge of gas sterilization techniques.
68. Identify different materials and types of sutures.
69. Explain common surgical procedures.
70. Maintain the surgical suite.

Connections:

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
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- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
- Common Core State Standards for Mathematics, ELA and 21st Century Science Standards
- NAVTA Approved Veterinary Assistant Certification: www.navta.net
- Hill's Pet Nutrition: www.hillsvet.com Veterinary Nutritional Advocate
- Merial- www.vetmedteam.com
- Idexx- www.idexxlearningcenter.com
- FEMA- http://training.fema.gov/is/

Advanced Veterinary Assistant Skills
Valid Course Code:
170803

Course Description: Students will build on previously mastered animal handling skills and develop specific skills for work in a veterinary hospital. Students will develop problem solving skills and demonstrate workplace applications of skills with the Veterinary Assistant Internship.

Content/Process

Students will:

1. Demonstrate knowledge of anatomical terms, physiology and disease processes of the endocrine system.
2. Demonstrate knowledge of anatomical terms, physiology and disease processes of the reproductive system.
3. Demonstrate knowledge of common veterinary abbreviations and terms.
4. Demonstrate career application of skills and knowledge by completing a veterinary assistant internship in the veterinary industry for a total of 180 hours of contact time.
5. Demonstrate knowledge of the veterinary industry by completing the Level 4 Design Project.

Connections:

- Kentucky Occupational Skill Standards/National Health Care Skill Standards
- HOSA-Future Health Professionals (www.hosa.org)
- Omnibus Budget Reconciliation Act (OBRA) Guidelines
- Secretary's Commission on Achieving Necessary Skills (SCANS)
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- Merial- www.vetmedteam.com
- Idexx- www.idexxlearningcenter.com
- FEMA- http://training.fema.gov/is/